THE

AMERICAN FARMER:

DEVOTED TO

Agriculture, Horticulture and Rural Economy.

[ESTABLISHED 1819.]

"O FORTUNATOS NIMIUM SUA SI BONA NORINT
"AGRICOLAS." . . . . . *Virg.*

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NOVEMBER.

"Round Autumn's mouldering urn
Loud mourns the chill and cheerless gale,
When nightfall shades the quiet vale,
And stars in beauty burn

'Tis the year's eventide.
The wind—like one that sighs in pain
O'er joys that ne'er will bloom again—
Mourns on the far hill-side."

WORK FOR THE MONTH.

CORN.

Now is the time of our great Corn harvest. The gathering into the crib of a good crop of Corn is cheerful and pleasant work during this month. Later in the season it is a cold and irksome one. When it is sufficiently dry, and the weather not too warm, to allow its being put away with safety, dispatch the work as fast as possible.

THE CORN FODDER.

When blades and tops are saved, they will, of course, have been properly cared for. In this case take time to cut down the stalks as soon as the corn is taken from them. They lose much value for manure if allowed to dry by alternate freezing and thawing as they stand. They should be hauled at your earliest leisure to the pens to be trodden by the stock and manufactured into manure.

When large crops are grown, let us call attention to the enormous labour required to handle the fodder two or three times, first in getting it to the yards, then in heaping and hauling, and finally in spreading again as manure. Beyond the quantity of litter required to keep the stock well fed and bedded, there is no advantage whatever in accumulating the offal of the crops in the farm yard. All not required for these purposes should be hauled to the ground to be manured and fed there to the stock, scattering just so thick upon the land as may manure it without further removal. Temporary shelters may be made, or the stock may be brought to feed here only during the day in good weather. The feeding on the ground is best done upon a turf, and care is necessary that clayey ground be not trodden by the stock in soft, wet weather.

MANURES.

All manures now in the yards should be hauled out at once and spread upon grass land, or on your next year's corn or tobacco land, as you may prefer. A portion, or all if desirable, may be thrown into heaps, mingling plaister with it to form a compost for manuring any spring crop in the hill or drill.

The yard should then be covered to the depth of six to twelve inches with muck, weeds, or litter of any sort which may answer as a sufficient absorbent of the droppings of the stock, and keep them always quite dry.

SHELTER.

It is hardly necessary, we presume, to remind a reader of the *Farmer* of the necessity of ample protection by shelter, of every kind of stock. All ordinary farm stock, including horses not at work, fare better, we think, in sheds open to the South and well littered, than tied up to stalls, unless very carefully attended to. All the buildings around the farm yard should be provided with spouting to give you command of the water.

WATER IN THE YARD.

Do not fail to provide water in the yard for your stock of all sorts. Water once a day is not

enough, nor will it do to provide for this once, by a hole cut through the ice with an axe, nor to have your cattle slipping on icy paths or plunging through snow to get it. Have water in the yard.

FALL PLOUGHING.

While there is some doubt as to the propriety of breaking up, ordinarily, the sod land for next year's crop, there are exceptions to the rule in all very stiff clays, or very old turf, and such lands as are to be taken up anew from the woods or old fields. On all such, the action of the winter frost is useful, and the longer they are exposed to the atmosphere before planting, the better. The more of this heavy work that can be got off your hands in the fall, while the team is strong, the greater despatch you will be able to make in spring. Plough deeply and do not fear to bring to the surface an inch or two of the virgin subsoil.

FEEDING HOGS.

We repeat what we said last month as to the preparation of food for hogs by cooking, or at least by grinding. Economy, which is so essential at all times, is doubly so this season. As the food of full fed hogs is richer than that of any other stock, it should be preserved with the utmost care. For this reason it is well to have the floors of feeding pens raised a foot or more from the ground, and have litter enough of some sort underneath to absorb the droppings.

CATTLE AND SHEEP.

The feeding of Cattle and Sheep intended for slaughter, should be attended to with strict regularity, and carried on with all due attention. Look well to the comfort and quiet of all animals that you wish to take on fat.

WHEAT FIELDS—WATER FURROWS.

We have nothing to add to our previous hints on Wheat seeding, and hope that is all done. Water furrows should be made that will prevent with certainty the accumulation of surface water on any part of your field. Frost would do the wheat little harm but for the excess of water in the ground. A great deal of our arable land requires under-draining, and this not being done, surface drains will to some extent relieve them.

POTATOES, RUTA BAGA, &C.

Potatoes should be now taken up without delay, and well secured against water and frost. Ruta Baga should be taken up before a hard freeze.

ICE PONDS.

Get your Ice Pond in readiness; cut off weeds and grass. Let the water on early, that the pond may be well filled before freezing.

TOBACCO.

Commence the stripping of Tobacco at the earliest "season" that offers after it is sufficiently cured.

THE VEGETABLE GARDEN.

NOVEMBER.

There is little work in the Garden at this season beyond the care of storing the winter vegetables in safety. We may well anticipate, however, another season, in the preparation of the ground that requires it, by trenching and manuring. There is no better season for such work if the soil be not too wet with rain for working. We need hardly remind the intelligent readers of the *Farmer* that no ground is, or can be got into perfect condition thoroughly, while the rain water cannot pass freely. If it remains wet several days after a soaking rain, it needs underdraining, and no quantity of manure or work will prove a substitute for it. These underdrains should be at least three feet in depth, and are best filled with draining tile, but stone or wood do very well. We are learning slowly, under the new lights in Agriculture, this fact, that while manure can never make a soil fertile through which rain water does not pass readily, and into which the atmosphere has not free ingress, that these conditions will greatly economise the use of manure. This is a good season for underdraining and for trenching and digging such ground as requires exposure to the action of the frosts.

ASPARAGUS BEDS.

These, if not already attended to, should be dressed as directed last month. A little extra attention now will amply repay you in spring.

SPINAGE.

Let the crop of winter Spinage be well cleaned of all weeds, and properly thinned out.

LETTUCE.

Lettuce plants, if not set out yet, should be put at once in a border of dry soil where they may be protected with frames. Keep them covered only in freezing weather; when moderate, give the air free access.

CABBAGE AND CAULIFLOWER PLANTS.

These may have the same protection as above for lettuce, or they may be planted in a dry border up to the leaves, and have over them a light framework, on which pine or cedar brush or boards may be laid at least twelve inches from the ground. This covering should allow free access of air, but protect the plants from the direct action of the sun when they are frozen.

RHUBARB AND SEA KALE.

Seeds of these are more sure to vegetate if put into the ground now, than if kept till spring.

POTATOES.

Potatoes for early use may be planted this month and well covered in the trenches with straw or stable manure. It is proper to ridge the earth over them, to be levelled down when the spring sets in.

CABBAGES.

To preserve Cabbages for winter use, take them up in dry weather and turn them upside down to drain out any water that may have lodged among the leaves. Select a dry sandy or gravelly spot and plant close together up to the leaves after trimming off all broken or decaying leaves. Then make over them a shelter that will protect from rain and sun, but allowing free access of air. This shed should be closed down to the ground on both sides, and left open at the ends for ventilation, but closed in freezing weather.

ROOTS FOR USE IN WINTER.

These should now be taken up in dry weather and put in a cellar for the purpose, and covered with dry straw if there is danger of freezing, or put in pits of a few bushels each, on a well drained spot.

CELERY.

We repeat the directions given last fall for preserving Celery so that it may be got up conveniently in freezing weather. Of every three rows take up two, and cutting down with the spade at a distance of six inches on each side of the remaining row, set in the removed plants carefully and cover up with earth to the tops of the leaves. On a clear, dry day, cover the whole well up with straw and put over it a good layer of earth.

THE FRUIT GARDEN.

What we have said in the vegetable department as to the necessity of draining is strictly applicable to the Fruit Garden. It is worse than useless to expect a good growth of wood or fruit of any choice sorts in a soil very retentive of water.

PEARS, &C.

Pear trees and any other hardy fruit may be planted this month.

GOOSEBERRIES AND CURRANTS.

Rooted plants of these may be put out now. They are very easily raised from cuttings, however, which should be put down in places where they may be wanted to remain.

RASPBERRIES.

These may be planted now, the sooner the better. Of those which are not decidedly hardy lay down carefully the canes of this year's growth; all others should be cut out. Secure them with pegs and cover with litter and earth or with earth alone.

STRAWBERRIES.

If not already done, the Strawberry bed should be well cleared of weeds and grass, and dressed with manure.

CRANBERRIES.

It would be well to prepare now a small plat of ground in accordance with our directions heretofore, and plant a few vines early in spring.

THE ORCHARD.

PLANTING.

All hardy trees may be planted during the month before the ground freezes, but the earlier the better.

PRUNING.

Apples and Pears may be pruned this month, but it may be better to wait till February.

STAKING.

New planted trees should be secured to good stakes with bands of straw so placed about them as to prevent chafing. Litter thrown around their roots, but not so thick as to harbor mice, will be very advantageous to the young trees.

THE VINEYARD.

Vines may be still planted and grounds put in order for early spring planting.

THE FLOWER GARDEN.

BULBOUS AND TUBEROUS ROOTED FLOWERS.

Plant these at once, if not already done, and cover over with litter of any sort before hard frost sets in.

PERENNIAL AND BIENNIAL FLOWERING PLANTS.

Continue to take up and divide these, such as require it, and plant out.

STOCK GILLIES AND WALL FLOWERS.

Plants of these in pots should be taken into close rooms or into the Green House.

CARNATIONS, PRIMULAS, HYDRANGEAS, DAISIES, must either be placed in frames or the Green House, early in the month.

DAHLIAS, TUBEROSES.

These and other tender roots should be taken up at once.

FLOWERING AND ORNAMENTAL SHRUBS.

These may be planted now and protected with a covering of litter about the roots.

GENERAL WORK.

Clear the beds, borders, &c., of all dead leaves and stalks of annual and other plants. Give them a dressing with hoe and rake. Dig and rake and leave in neat order for winter, the ground in which ornamental shrubbery is planted.

COMPOSTS.

Get together materials to form new compost heaps, that you may be well provided in spring.

THE GREEN HOUSE.

Hardy exotic plants which have been permitted to remain out till now, should be removed to the Green House.

In mild weather give your green house plants all the air that may be safely admitted. Fire should be dispensed with as long as the plants may be protected from frost by mats and shutters.

Give moderate, occasional waterings, on bright mornings.

Pick off decayed leaves and take them out of the house.

Examine occasionally tubs and pots, and loosen up the earth, pulling off decayed leaves, and trimming decayed branches of plants.

Fawkes' Steam Plough a Failure.

During the Illinois State Fair, at Jacksonville, Fawkes' steam plough was again submitted to a practical test in a forty-acre field, and proved a bad failure. It was tested last year, but it was thought its failure then could be remedied by some improvements of the machinery. Alterations and improvements were made in Cincinnati, but perfection has not been attained. Of the performance at Jacksonville, the correspondent of the Harrisburg *Press* writes:

"Mr. Fawkes began ploughing at 11 o'clock, drawing six ploughs; steam 130 degrees; ran 14 minutes; stopped steam at 80; stopping 10 minutes; started again; ran the whole of one minute, and actually ploughed 456 yards; furrows 6½ feet wide; stopped; started again; steam 130 degrees; ran one minute; stopped; steam at 100.

Now, whatever elements of success there may be in this steam plough, we certainly have not seen any results from it, and we certainly consider that this day's trial is a complete failure, under the peculiar circumstances, of which circumstances every one connected with the Agricultural Society is well aware."

Pruning Trees at Transplanting.

An animated discussion is going on in the French and German periodicals, as to the propriety of this practice. Very few of the disputants appeal to facts, but to the "principles of vegetable Physiology," which is being drawn in by the ears by them, in much about the same way that poor "nature" is with us.

"To prune a tree at transplanting," says one of the leading German spirits, "is opposed to the recognized theory of the sap's descent, without which there can be no extension of root growth; and therefore the more branches left on a tree at its removal, the more roots will be the result."

It is said of some French philosopher, that, when told that facts opposed his theory, he replied "so much the worse for the facts."

In this instance we can truly say, that if the practice is opposed to the theory, experience on this continent has now established the rule that all trees should be more or less pruned at transplanting.

It is singular how men will argue for years, and dispute for ages on topics which they could test and decide in a very short time. A few months ago a dispute arose in one of the popular horticultural societies about the merits of some asparagus exhibited. One bunch contained stalks of an immense size, and beautifully *blanched*, so much so that there was but the bare effort of a steely blueness at the narrow end. This had the premium. The opposing bunch was equally as fine, but not so admirable a white the full length of each stalk. A stormy dispute arose. Each party had its advocates. At length a wag, considering that the discussion was in effect an inquiry as to the proper end to eat asparagus—the green or white—moved that a committee be appointed to carry home, cook, and test the question, and report at the next meeting, which was wisely carried, and at once the subject dropped.

We hope our learned controversialists will adopt the Solomonian wisdom displayed by this distinguished body of savans, and when such questions as the proper end of asparagus to eat; which particular end of an egg should be broken in order to get the most easily at its contents; whether to prune a tree or not at transplanting, or any other that may threaten to rend asunder the harmony of our relations occurs, why let a committee be appointed to carry home the subject and test it by experience.—*Gard. Monthly.*

"There is a day when lazy folks work and fools reform—it is to-morrow."

[For the American Farmer.]

Errors in Estimating and Using Manures.

NUMBER FOUR.

It is said that "God made the country and man made the town." Was the primitive soil of the garden of Eden perfect, requiring merely the "stirring process" of old Jethro Tull, (who flourished 100 years ago—the process that has been lately resuscitated by the Rev. Mr. Smith, of England,) or did the command to *"replenish* and subdue," mean to restore to it the phosphates, &c., that you take from it in the form of bread and bones? Much that we call disease and pain is the spontaneous effort to protect, recuperate and restore the health of the body. There is a corresponding law by which fertility is restored to the soil. Machines enable us to save time, and manures act upon the same principle. Machinery, medicine and manures do not manufacture force, but merely concentrate or direct it. Believing these doctrines, I usually recommend what the old doctors called "vis medicatrix naturæ," rather than medicine; and the natural resources of a farm, rather than artificial and foreign manure. Root crops and clover must be substituted for foreign ammoniacal manures.—Few agriculturists in this country seem to be aware that one acre of turnips supplies the soil with *more* ammonia than half a ton of Peruvian guano; so also is it with red clover on stiff clay soils. The specific manure of these crops is phosphatic guano, mingled with plaster or ground bones, provided they are fine, pure and cheaper than guano, which (by the way) is not the case at this time, as *"A A Mexican" guano, containing more than 60 per cent. of phosphates, can be had in Baltimore for $17 or $18 per ton, in fine uniform powder. I do not suppose it was ever in Mexico, nor was any of the Mexican guano ever in that country, but *all phosphatic guanos that do not contain ammonia may be called Mexican.* The article I refer to is more valuable to the farmer than the old-fashioned damp Mexican guano, for which I paid $20 per ton for ten tons more than ten years ago, although it contained masses of worthless coral and yielded no more phosphates than the above. At that time I bought bones coarsely ground for 45 cents per bushel, and applied them at the rate of sixteen bushels per acre—large and small pieces of these bones are now visible on the field, showing clearly the importance of division—but the following facts may *perhaps* be used with propriety to illustrate the same idea—although I place very little confidence in isolated experiments:

These two fields nearly adjoin; the first good crop since the application of the bones was the one of this year, when *both* the boned field and the one covered with Mexican guano ten years since, yielded 50 bushels of oats per acre, on an average, whereas the one upon which I applied the phosphatic guano yielded 50 bushels per acre the same year on which it was applied, about ten years ago. I *then bought* Mexican guano for $20 when it would not sell at auction for more than $6 per ton. Since that time the islands of the Caribbean Sea have been swept, and recently I received a present of five bags from the newly discovered island in the centre of the Pacific Ocean, under the Equator. This I am requested to "experiment with in comparison with other fertilizers, *on my wheat.*" I have not analyzed it, nor am I instructed so to do, but if I may judge from the analysis of others, it is by far the richest phosphatic guano in the market. But I fear the price will counterbalance this advantage. I introduce it here to illustrate some of the errors referred to. It is an "a fortiori argument," for if the most experienced and intelligent merchants do not understand, then it is not probable others comprehend these matters. The advertisement of this company that appears in all our agricultural periodicals commends this phosphatic guano to the farmers *because "the price is one-third less than Peruvian."* Again—I am requested to "experiment with it in *comparison with other fertilizers on wheat.*" Again—intelligent farmers in my presence compare the effects of *pure* phosphatic manures with those of even lime and clover.

In teaching agricultural chemistry, I am in the habit of using the following illustration: *seven* elements are necessary to provision a ship for sea, viz: flour or bread, water, meat, salt, sugar, coffee or tea, and butter or lard. Leave out of the ship *one* of these and all the rest are useless; leave out the half of the *due proportion* of one, and the half of all the rest are useless. What good merchant would substitute a barrel of crackers for a barrel of water, because the price of the crackers happened to be one-third less than the water? Yet the comparison between Peruvian and phosphatic guano and phosphatic guano compared with lime, or other fertilizers, is

*There are two varieties of phosphatic guano now for sale in the Baltimore market. The Inspector has very properly stamped *each* "A A Mexican," as both are of same quality, although differing in appearance. I would recommend both equally to the farmer at $20 per ton, but if the price is raised above $20, then I should prefer the Navassa or the Baker's Island, or some other true guano, rather than powdered bones at $30.

regarded as a matter of course. There are *seven* elements that compose the food of plants; the absence of *one* of these from the soil is not compensated for by the increase of *all* the rest, or any one of them. Indeed no cereal grain, *not one kernel, ever did or ever will mature or appear in any part of the world, unless all seven are present.* In order, then, to compare one phosphatic guano with another, or with *any* other fertilizer, *all* of the six elements of plant food should be added, viz: ammonia, or Peruvian guano, plaster, &c.—and the experiment should be repeated on *other* soils that are known to be deficient in phosphates from their previous effect on cereal crops in "fattening the grain." In Peruvian guano the ammonia is in excess, therefore manipulated guano—containing only half as much ammonia as Peruvian—produces an equal influence as Peruvian *sometimes*. But all of these artificial mixtures are liable to vary in quality, on account of the frailty of human nature and the extraordinary temptation to fraud thus presented. It has been abundantly demonstrated that *compounds* much cheaper than Peruvian guano can be made, but the confidence of the farmer has so often been abused, that we now actually see a company of the most respectable merchants in Richmond, Va., engaged in the "manipulation of guano" and *the manufacture of special manures for wheat*, &c.

Formerly *all* of this trade was concentrated in Baltimore, and our very imperfect inspection laws still hold the great bulk of the trade in the "raw material" to this market, so that the inferior varieties of guano that will not bear inspection, are shipped to Virginia and elsewhere direct from New York—just as certain cargoes of a manufactured manure that would not pass my inspection, were RE-shipped from Baltimore to Virginia a few years since, and sold freely there by one who thought that "a bird in the hand is worth two in the bush." There is a book that is used—although it is not often quoted—in the country, and by the farmer, when the best part of his field is put next the road, or the best part of the fruit is on the top of the basket, or the worthless horse is sent to the city. This book is the text book or bible of all mercantile communities, and I believe it is quoted and expounded in theatres. It teaches the above doctrine in another form, that I heard quoted once, and only once, in the city, but never elsewhere—some one may be able to supply the author's name. He says: "He who is robbed, not knowing that he is robbed, is not robbed at all."

Inspection laws and all human laws and fines only divert the current of crime from one channel into another—they are poor substitutes for honesty. I think I know a few merchants and manufacturers in Baltimore, who, if they would unite, could keep this business in its legimate channel and more cheaply supply the whole Southern trade than any mere voluntary association of planters and their commission merchants south of Maryland. Heretofore the business has *spontaneously* grown in Baltimore, and if concentrated manures were imported or manufactured elsewhere, they must be brought to Baltimore in order to find "*a market.*" Now suppose that, for the reason that cotton is sanded by some dishonest planters or merchants, we in Maryland organize a company to raise and pack cotton so as to divert the trade from New Orleans, where it has spontaneously fixed. Such a proposition is equally absurd.

But I have already exceeded the limit I had designed. I have pointed out *some* of the errors that are rife in the estimation of manures, using the most familiar style and language, which I hope will be excused. At some future time I may fill up the perfect number (seven) by adding to these papers three more, conveying *my* reasons for the doctrines that I have taught for ten years past, viz:

(*A.*) The action of lime and the most economical mode of using it as to season, crop, &c.

(*B.*) That Peruvian guano is usually an exhauster of the soil, unless associated with all of the other (six) elements of soil plant food.

(*C.*) Manipulated guano is only *less* liable to the same objection, and so also is plaster, and last and least of all, lime, *if empirically used.*

(*D.*) There is a rational system by which *all* of these manures can be used *economically*, so that the farm becomes more and more independent of artificial or bought manures *every* year, and instead of being more and more dependent on Peruvian guano, the farmer will manufacture or rather his crops will produce, more ammonia in one year than he ever bought from Peru in seven years before.

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19th SEPT., 1860.

SWEET POTATOES.—We suggest to those interested to preserve the very satisfactory article on keeping sweet potatoes, for future use. We hope to hear from our correspondent again.—EDITOR.

[For the American Farmer.]

Short History of Veterinary Science.

BY DR. RICHTER-SANDOR, VETERINARIAN.

The days of yore, the age of the ancient Greeks and Romans, gives us notice of the existence of the first elements and axioms of veterinary art. Among the Greek authors are already to be found some traces of its knowledge, especially in regard to the horse. *Homer* (living 1000 years before Christ) and *Herodotus* (born in 484 before Christ) mention this science in their works. *Hippokrates* (born in 460 before Christ) occupied himself with the anatomy of animals. *Xenophon* (born in 446 before Christ) gives us the name of *Simon of Athens* as a farrier. *Aristoteles* (born in 384 before Christ) gives, in his natural history in ten volumes (historia animalium), a relation of the state of veterinarian art being at his time. The Roman *Columella* (living in 54 after Christ) has been the first Roman author, who had in his work, entitled "de re rustica" (agriculture—in twelve volumes,) a separate section on the diseases of horses and cows. *Galenus* (born in 131 after Christ) made experiments in the comparative anatomy between animals and men. *Vegetius* (living in the fourth century after Christ) published a veterinarian work in eight volumes, entitled "de arte veterinaria." The Roman physician *Celsus* (living under the government of the emperor Augustus,) has been also an author in veterinary science. The Greek emperor *Constantius Porphyrogenetes* (born in 770 after Christ) has arranged a collection of all writings of past ages, appertaining to this line, under the title "Hyppiatrika," (science of curing horses,) which collection, by order of Francis I, King of France, (born in 1494,) has been translated from the Greek into the Latin language, under the title, "Veterinariae medicinae libri duo"—Paris, 1580, by Ruelle, M. D.—From the life time of Vegetius, during the decay of the sciences and arts, has no one work appeared in this line. *Carlo Reyni*, an Italian physician, (living in 1598,) has been the author of the work, "l'anatomia del cavallo"—anatomy of the horse—and since his death, the cure of horses was a principal business of the French and English riding-masters (equerries.) But in the commencement of the eighteenth century, where different cattle-murrains overflowed almost the whole of Europe and caused terrible devastations among the cattle—the most celebrated physicians and veterinarians were challenged by the governments for the examination and suppression of these epidemical diseases and public calamity. *Ramazzini* and *Lanzisi* in Italy, *Sauvages* in France, and *Camper* in Holland, have been the first authors and editors of works in this line.

You can very likely imagine in what high degree of ignorance and scepticism the veterinarian art has been practised in former times—exclusively restricted to the crudest empiricism, without scientific consolidation and endeavor—containing, for the most part, a list of names of animal diseases, and a collection of receipts, entirely unknown in the sphere of the physiology and symptomology. Masters of horses cured their horses—herdsmen and shepherds the cattle, sheep and goats—huntsmen their sporting dogs, blacksmiths and headsmen pretended to be in possession of the knowledge to cure all kinds of diseases of domestic animals in general, (which misuse occurs yet to-day too frequently, and often in damage and loss for the owners of animals.)

The first establishments of animal-infirmaries are to be found in the 17th—of veterinarian schools in the 18th—and of regular veterinarian colleges and institutes, connected with hospitals, in the first half of the 19th century.

Self-Sucking Cows.

CHARLES COUNTY, Md., Oct. 4, 1860.

To the Editor of the American Farmer:

You tell us that a friend is annoyed by a self-sucking cow, and you ask any one of your friends for an effective remedy. With simple desire to do a neighborly kindness, I suggest that your friend have a strong leather head stall, as if for a horse—the *lower piece* to surround the muzzle just above the nostrils. This should be made of thick leather, with wrought nails of medium length driven through one inch and a half apart, and filed to a sharp point—to stick out all round the mouth and prick the animal every time she attempts to suck. The strap round the muzzle, through which the nails pass, should have an inner lining of thick leather—the inner and outer being nailed together with tacks, or sewed so as to hold every nail in its place. Let the surrounding for the mouth be *not* tight, so that the animal may well open her mouth. This is no cruel expedient, as it might seem, and it will be sure to succeed. I claim not the credit of inventor of it; it is well known hereabout.

Yours, &c., SCRUTATOR.

[Dr. Sandor suggests as a remedy, to sweeten milk with sugar and compel the cow to drink it. It will spoil her taste for sucking.—EDITOR.]

A bit of soap rubbed on the hinges of doors will prevent their creaking.

Shade Trees in Pastures.

AVENEL, FAUQUIER CO., Oct. 4, 1860.

To the Editor of the American Farmer:

DEAR SIR: I had no idea of being called upon for anything further when I wrote you before, and I feel rather diffident about putting any statements into print about grazing cattle, on account of my limited personal experience. I have lived, however, long enough among experienced graziers to know pretty well what their general opinions and practices are; and those I state to you are such as they have found most beneficial in their business.

Upon the first subject you mention, viz: "should shade trees be allowed in pasture fields?" there may be, perhaps, two opinions, but the one most generally held is against shade, unless it is in the immediate vicinity of water.

The most important object to be attained in grazing, next to good and plentiful grass, is that the cattle shall be free from any disturbance whatever, and that they shall take as little exercise as possible. In the first place, then, if the shade trees are at any distance from the water, the cattle will collect under them, and in hot weather will often stand there until their drinking time arrives, and then run in a body to the water, where they will push and fight for the first drink, and then run back again to the shade. I have seen them do this often. Then, again, one of the greatest enemies to fat cattle is the biting-fly, which loves the shade as well as the cattle, and when the latter are huddled together under the shade, they suffer a great deal more annoyance and worrying than they do out in the open field. I have seen bullocks smart enough to leave the shade and stand out in the sun all day, and they seemed to thrive better by it. If, however, a man has a stream running through his field, where the cattle can stand over their knees in water, let him by all means have abundant shade on the banks. His cattle can then stand, their legs protected, and whisk the water over their backs with their tails, and bid defiance to the flies.

You see the objection to shade is not because it promotes "laziness"—as the *Rural American* thinks—and prevents cattle from eating, for I have yet to see the man or ox that is too lazy to eat when hungry and food convenient; but rather because it tends to break the quiet that it is necessary cattle should have in order to chew the cud. Some men are so particular about this that they will not go amongst their cattle to salt them, or look at them, while they are lying down.

As regards your second question, I think it is generally considered of no advantage to change cattle from one field to another. Our intelligent graziers put as many cattle on a field as it will fatten well, and let them stay there until they are ready for market, never shifting them, except for some special cause. The reason of this is, that if you take a lot of cattle out of one field and put them into another, they will walk over every foot of it, and look into every nook and corner before they begin to eat. This disturbs and excites them, and therefore is disadvantageous.

This I think is the practice of the more intelligent and observant graziers of this county, in reference to your points of enquiry. I shall be glad at any time to give you such information as I may possess on any points in connection with my calling.

I am, very respectfully, your friend, &c.

R. W. DOWNMAN.

Water Troughs should be kept Clean.

Pure water is a great luxury to the palate of a thirsty horse, and every man who is fortunate enough to be the owner of so noble an animal, should see that the wants of the same are properly provided for.

Unfortunately very few persons realize the importance of supplying domestic animals with pure water; yet they stand in need of it, whenever thirsty, and as a matter of profit to ourselves and charity to them, we should see that their wants are well supplied.

Pure water is very nutritious, and as a nutritious agent, its value is impaired when of inferior quality, or when mixed with indigestible foreign substance, such as is often found in watering troughs located by the wayside.

Some very interesting experiments have lately been made on horses belonging to the French army, in view of testing their endurance as regards the deprivation of water, and it was found that some of them lived twenty-five days on water alone; it is a singular fact that seventy-five per cent. of the weight of a horse's body is composed of fluid.

Strange water, as it is called, often has a bad effect in the digestive organs when first used, and in order to guard against its consequences, English grooms always provide for the wants of their horses, when at the race-course, away from home, by furnishing them with an abundant supply of pure water to which they have been accustomed. This water is transported from place to place in hogsheads.—*Stock Jour.*

Hints about Fruit Culture.

To the Editor of the American Farmer:

The planting season being just ahead of us, we do hope that our "hints" may induce some few to do the good deed of planting fruit trees, shrubs and vines. We believe it the duty of every head of a family to provide fruit for his or her dependents. Most people *like* ripe fruit; their natures *crave* it and will not be denied. This reminds us of one aspect of the subject, that we do hope some abler pen than ours will notice. We allude to fruit stealing. Many who cannot obtain fruit honestly, get it as they can, and unprincipled people—both white and black—steal it for their own use and the supply of those who do not raise it. And a great many well-meaning people, who would spurn the thought of dishonesty, do not hesitate to buy fruit from very questionable sources. We repeat it, the head of every family should provide an abundance of fruit for the family dependents—and thus while discharging a home duty, he will perform an act of *simple justice* to his more provident neighbor.

The operations of budding and grafting are exceedingly simple; any person of ordinary intelligence, past the age of twelve, can easily *learn* to perform them. But we advise all those who have not a pretty good supply of bearing trees on hand, to lay in immediately a goodly number of two year old trees from some reliable nursery, and then to keep up a supply by their own work in budding and grafting. We love this kind of work and speak from experience. We prefer two year old trees decidedly to one year old trees. True, you may get one year old trees for 10 cents apiece, while at the same time you will have to pay 20 cents apiece for two year old trees. But remember these two year old trees come into bearing a year sooner than the others, and make a much stronger growth; moreover, it surely is worth 10 cents to manure, work, prune and care for a tree for twelve months. We have moved apple, pear, peach and many other kinds of fruit trees of three years of age, and have found that they were not checked in growth and always bore fruit the first year. By all means have a succession of apples, from the earliest to the latest. We urge this, both for the pleasure and the profit to be derived from it. About the *pleasure* of good fruit at all seasons, *some* of us *know*, and *all agree*. Some, however, we presume, are not convinced of its profit, or they would raise more of it. We risk the assertion that there is no crop more profitable than the apple; as feed for farm stock it is nutritious and healthful. We know that some people say that cows and horses must not be allowed to eat apples, because the acid from them will put their "teeth on edge." We will simply state our experience: As soon as the apples are as large as walnuts, we daily send out the "little chaps" and have them all picked up. We feed them to the geese and other poultry; the milch cows and the hogs. We have them mashed with a mallet for the poultry, which eat them greedily, and yield us in return an ample supply of eggs, young fowls and feathers. We feed them, once a day, to the cows, at the rate of a bushel to each cow, and very soon the milk becomes yellow, creamy and abundant, and the butter sweet, firm, yellow and plentiful. We believe that every one agrees that apples are fine food for hogs. In the summer, when the ploughing season is over, our horses eat apples at will; we have never examined their teeth, being very well satisfied with the shining, loose appearance of their coats. Apples are as easily kept in winter as potatoes, if rightly managed—and good apples, in winter, will always bring a fair price. They require *very careful* handling in gathering, assorting and packing. It is unnecessary to say that they must always be gathered by hand. The picking over, and assorting, we never trust to any hand but our own. We separate them into three qualities: No. 1 being those that are perfectly sound; these are stored away for late use. No. 2 are those that are imperfect, specked and knotty; these we send to market very soon, and get from 60 to 80 cents per bushel for them. No. 3 are the most inferior, the bruised and rotten, which we beat for vinegar and feed away to the stock. By being thus careful, our apples are generally the last in the neighborhood. Many people labor under the mistaken notion that fruit trees need no care. As long as they carry this idea into practice, they will have no good fruit of their own raising; but if they will plant carefully and carefully tend their trees, they will be repaid fourfold.

In your next number those interested in my subject may hear again from an advocate of

HOME COMFORTS.

How to Prevent Sore Shoulders in Working Horses.—An exchange says: "The plan we have tried and never found to fail, is to get a piece of leather, and have it cut into a shape so as to lie snugly between the shoulders of the horse and the collar. This fends off all the friction, as the collar slips and moves on the leather and not on the shoulders of the horse. Chafing is caused by friction; hence this remedy is quite a plausible one, and is much better than tying slips of leather or pads of sheep skin under the collar."

Keeping Sweet Potatoes.

OAKLAND, Oct. 5, 1860.

N. B. Worthington, Esq.,

DEAR SIR: Enclosed I send you $1, for which you will please give me credit and acknowledge receipt.

I am not in the habit of writing communications for publication, but seeing in the last number of the *Farmer* an inquiry relative to the best manner of keeping Sweet Potatoes, and a request that some one of your readers should give the desired information, and having succeeded so well, during a period of fifteen or twenty years, in keeping them the *whole* year round, I deem it but just to respond to your call. I would give my way of *raising* as well as keeping, but this would, perhaps, extend this simple note too far; I will do this before the next planting season.

I never dig my crop until the tops are killed by frost. So soon as this is done I get them out of the ground, taking care to perform this work in dry weather if I can do so. In a few hours after digging I put them into a good dry cellar, taking care to take out all the broken or cut roots, which are laid aside for immediate use. The cellar is prepared by being laid off into bins, one large, for eating roots, and the other small, for seed ones. After putting in potatoes until I get them about one foot deep, I add *dry* sand until all the intermediate spaces between them are completely filled. I then add another layer of potatoes, then sand as before, until I am done. After this I merely cover over the top lightly with sand, adding a few shovelfulls occasionally until the weather becomes quite cold, then cover three or four inches deep, and the work is done. There is a great advantage is using *dry* sand; all roots go more or less through what we call a sweat, and in this operation the moisture is taken up by the sand, and the potatoes dry off without injury. It is well to have the cellar well ventilated until cold weather, particularly whilst the sweating operation is going on. I have been using the same sand for fifteen years, taking care to sift it through a coarse sieve every fall to take out any small bits of rotten or broken potatoes that might be left. In getting out for use, let them be taken from the top, and if it be done by a careful hand, the sand will of itself fill up the hole made by taking out, thereby insuring the remainder from injury.

The planks that form the front of my bin are so arranged that I can put them in or lift them out one at a time, for convenience in putting the crop in or taking out. For instance—after taking off the top roots for use, the sand will begin to get too thick and in the way; then lift off the top plank and rake with the hand a portion of the sand away, leaving, as before remarked, just enough to cover the proper depth.

I have been pursuing the foregoing plan for years, and have never been out of *good, sound*, eating potatoes but once during the whole period, and selling from 100 to 150 bushels each year, and not unfrequently selling the most of them during the summer months. Before concluding, I must remark, for summer or late keeping the sand must be very thick on top, as heat penetrates much deeper than cold. A better plan, however, when not too troublesome, is to lift the potatoes out of the sand and put them on a dry floor, taking care to spread them tolerably thin.

Whilst I am writing I should like to say something upon several other subjects connected with the interest of the farmers, but I fear you are now tired out with this clumsy cummunication. I must, however, say to your numerous readers that *you* are advocating the right doctrine with regard to early sowing of wheat. I had rather risk the injury of *all* the enemies of the crop and sow early, than to put my crop in late. Our corn crop is about two-thirds of an average one; tobacco light and sorry; all crops badly injured by the drought; wheat was not more than one-third of a crop, but *I*, by early sowing, made nearly an average one. My time for putting in is as soon after the first of September as possible.

With a promise that you may hear from me again, I am your ob't serv't,

ALFRED GARDNER.

A Profitable Dairy.

A subscriber of the *Genesee Farmer* sends to that paper the following statement as to a small dairy belonging to Mr. Edward Hoyt, that took the first premium at the Delaware County Society's annual meeting:

This dairy consists of six "native" cows, of the following ages: Two 7 years old, one 6, one 5, and two 3 years old—calved from the 10th to the 26th of March, inclusive.

Amount of butter made.....1,230 lbs.		
" " sold.....1,085 "	$230 61	
Butter used in family..... 145 "	30 45	
Pork made from milk.....	30 50	
Calves and colt, raised by hand.....	18 40	
One veal	5 50	
Three calf-skins.....	2 40	
Milk used in the family.....	10 50	
		$328 46
Deduct expenses, freight, corn, etc.....		20 26
Net income from all sources.....		$308 20

After deducting one-quarter each for two 2 year old heifers, the net profit per cow—5½ cows, $56 04.

Maryland Agricultural College.

AGRICUL. COLLEGE, MD., Oct. 3, 1860.

To the Editor of the American Farmer:

DEAR SIR: Permit me, through your journal, to acknowledge the receipt of several valuable contributions to our College Cabinet and Library and to thank the respective donors for their kindness in responding so promptly to my card.

From Dr. P. Tyson, State Geologist, two lots of his Report; also 25 copies of Map of ditto.

From Dr. Higgins, 66 copies of his 6th Report.

From J. S. Reese & Co., Guanos and Bone Ash.

From Sam'l T. Earle, Esq., specimen of Marl.

From Charles Brown, Esq., (Severn River,) specimen of Marl.

From Mr. Bowie, Fossils from marl beds.

From Unknown, from Worton Place, Kent county, Iron Pyrites.

From Mr. Dunnington, samples of Gypsum.

From Cabinet of Balt. Central High School, lot of Fossils and Minerals.

The gentlemen who have kindly aided us by these gifts, will please accept our acknowledgments. Our students seem fully to appreciate the necessity and utility of such specimens, and have themselves made several very creditable private collections, which they employ in preparing their recitations from the geological or mineralogical text books. *Silica* or *Alumina*, *Felspathic* or *Calcareous Rocks*, *secondary* or *tertiary formations*, are words or titles significant of practical ideas to these young men, who are acquiring the alphabet of agricultural science from the minerals composing our usual soils.

When leisure permits you to visit the College, we shall be happy to make you personally our acknowledgments for the prompt and obliging manner in which parcels left at office of *American Farmer* have been forwarded.

Yours very truly and obliged,

MONTGOMERY JOHNS, M. D.,

Prof. Ag. Chem. Ag. Col, Md.

POISONING RATS.—The best food with which to mix poison for killing rats, is pumpkin seed.—Wet them and sprinkle on a little arsenic, which will adhere to the seeds. They will be eaten by rats and mice, while cats, fowls, &c., not being fond of such food, will not meddle with them. Wherever poison is put for these troublesome pests of the farm, water should be near by, so that they may eat, drink and die, outside of their holes and hiding-places. Musk-rats, which are often troublesome pests upon some farms bordering upon creeks or ponds, may be poisoned with arsenic upon pieces of parsnip or sweet apple.

The American Guano.

We published last month "Extracts of letters and reports upon the character of the Baker and Jarvis Island Guanoes," by Baron Von Liebig, the result of his investigation, by chemical examination, of samples sent to him from this country. With a view to give our readers the benefit of a further discussion of the merits of these guanoes, we append a review of Liebig's analysis, by Dr. Lee, the Editor of the *Southern Field and Fireside*.

In our October number of last year we took occasion to call the attention of the readers of the *Farmer* to the high price charged for these guanoes, if we estimate them solely by the percentage of phosphate of lime. It was claimed then, as it has always been, that its superiority over other phosphatic guanoes was due to, the condition in which the phosphates exist, their mixture with sulphate of lime, and their prompt action. And it was desired to submit its claims upon the agricultural community to the test of results in the field. More than a year has now passed, and we shall be happy to hear from any of our readers who may have given it a trial.

The following is Dr. Lee's article alluded to above:

"When the fact is duly considered that there are many millions of tons of the phosphate of lime on Baker and Jarvis' Islands in the Pacific, a description of which we publish to-day from the pen of the most eminent chemist of Europe, the reader will understand why his analyses and experiments are published simultaneously in Germany, in England, and in the Northern and Southern States of our own country. The statements are most extraordinary, and we fear a little too favorable to the owners of this immense property, to be reliable. We ask attention to a a few facts which struck us with surprise on first reading the manuscript:

1st. That the guano from Baker's Island contains less than *one per cent.* of sulphuric acid, or 0.941 per cent.

2d. That 1000 grammes of this guano dissolved in 50 litres of pure water gave 11.63 grammes of sulphuric acid; being more than one and one-tenth per cent.

3d. By dissolving one per cent. of kitchen or common salt in 1000 of water, 50 litres of this exceedingly diluted brine dissolved out 12 412 grammes of sulphuric acid from 1000 of Baker's guano; or 25 per cent. more than the first analysis of this guano shows it to contain.

4th. In another experiment 12.145 grammes of this acid were obtained from 1000 grs.; and in

yet another experiment 25.07 grammes were dissolved out of 1000 of the guano, being nearly 200 per cent. more than the first analysis exhibits. These errors are patent on the face of the analyses and experiments. That the addition of a small quantity of common salt to water considerably increases its power of dissolving bone earth, as found in the excrements of birds and other animals, is a fact of great agricultural value, and none the less because it was known before. Liebig is not unconscious of the scientific difficulties in which his analyses place these guanoes, for he says:

'Some information concerning the native condition of these guanoes, more certain than the mere hearsay of mariners, would be of great interest to science. The absence of salamoniac, nitric acid, &c., in the Baker guano, is probably explained by the *frequent and heavy rains* which occur under the equator, and which have washed away those ingredients; but what to me is totally inexplicable, is the large amount of sulphuric acid in the Jarvis guano, *if it is mere animal excrement*, and that on a coral formation.'

Only a moderate acquaintance with the food of animals is needed to satisfy any one that they never consume nor void any such quantity of sulphuric acid or gypsum as is shown to exist in the Jarvis guano by Liebig's analysis; and it is highly probable that a carboy of this acid got accidentally broken near the guano before it was sent to the renowned Munich chemist, which acid expelled the carbonic acid present in the coral part of the compound, (as the analysis shows no carbonate of lime,) and thus produced this 'inexplicable' anomaly in animal manures.

We are amazed that it did not occur to Baron von Liebig that the same 'heavy and frequent rains' which washed away all the soluble salts of ammonia, soda, potash, and magnesia, except mere traces, or fractions of one per cent., must also dissolve and remove all soluble sulphates and phosphates of lime in animal manures! It is not a wonderful *scientific* discovery that the rain water of Germany, of Great Britain and of the United States will dissolve for all farmers so much phosphoric and sulphuric acid salts, which the far heavier rains of the equator have failed to dissolve in the last ten years and ten centuries.

Need we say more to put those on their guard who look to this journal for reliable information on all agricultural subjects?

The idea that an insoluble tribasic phosphate of lime, as it exists in bones, will change itself into a soluble bibasic phosphate in the excrements of birds or otherwise, appears to us in the highest degree improbable. The presence of so much phosphoric acid in these guanoes, notwithstanding all the washing rains to which they have long been subjected, furnishes direct and satisfactory proof that this compound of lime and acid is very sparingly soluble in a state of nature."

How Much Pork will a Bushel of Corn Make?

Upon the question of "how much pork will a bushel of corn make?" Mr. Richard Thatcher, of Pennsylvania, gives, in the N. York *Tribune*, the result of his feeding scalded or cooked cornmeal, in several instances, to fattening hogs.—The result of one trial gave sixteen and one-half pounds of pork for each bushel of fifty-six pounds of meal fed out. In another instance seventeen and nearly one-half pounds was the gain from a bushel. The breed of hogs experimented upon, was the "Chester" (county, Pa.) white, which we regard as among the best breeds now in the country. We have recently seen accounts of several other experiments of feeding hogs in the same way, with similar results, while the same breeds of hogs fed in the ordinary way, upon dry corn in the ear, gave a return of but about one-third of the weight compared with those fed on the cooked meal.

The experiments of Mr. Clay, of Kentucky, as detailed in the December number of the *Valley Farmer* for 1856, afford conclusive evidence of the advantage of feeding cooked, over raw food. In the experiments on the same animals, it was proved that dry corn would afford a gain of from about five and three-fourths to six and three-fourths pounds of pork to each bushel consumed, but when changed to food prepared by grinding and cooking, gave a return of from fifteen to nearly eighteen pounds of flesh for each bushel of corn fed out. These various experiments demonstrate facts worthy the consideration of farmers and especially when the price of corn and pork is constantly advancing.

With care in breeding from a good stock of hogs, and with their proper management throughout, keeping the hogs constantly thriving, at least an average of *fifteen pounds* of flesh may be received from every bushel of corn consumed. A few well-conducted experiments in feeding, with appropriate apparatus for preparing the food, compared with facts determining the amount of gain from the ordinary method of feeding, would forever settle the question and lead to valuable improvements in this important interest of Western farmers.—*Valley Farmer.*

☞ Correspondents will please give us their post offices distinctly.

Agriculture and Women.

An American gentleman who lately visited England was struck with the interest manifested by ladies, including those of the highest rank, in agriculture. One of these, the Duchess of Portland, exhibited perfect familiarity with the minutest details of farm management and work, showing her American guest over the whole of the Duke's large estate, and explaining to him the various processes and methods of cultivation.

We could wish that our American ladies would adopt one of the few aristocratic tastes and habits which sit gracefully upon republican women, and which would be of equal advantage to the interests of agriculture and to their own delicate physical organizations. A great deal of cant is uttered in these days about the mission of woman, but whenever we hear an attenuated, dyspeptic female talking in this wise, we feel sure that the daily handling of a broomstick, in a peaceable manner, or the charge of a kitchen garden, would soon put her upon the track most useful for herself and for society. When Rome was young and virtuous, the kitchen garden was always placed under the care of the mother of the family. In Sparta, the women, fit to be the mothers of heroes, cultivated the soil, whilst the men were fighting the battles of their country. Indeed, from the earliest period in the annals of our race, woman has aided by her counsels, and sometimes by her labors, in bringing agriculture to a state of perfection. The laws which Osiris gave to Egypt were not as valuable to that country as those precepts in agriculture, those instructions in embankments, irrigations and drainings, which Isis, his Queen, gave to the Egyptians, and which enabled them to derive so much benefit from the deposite of the Nile. Ceres, deified by the Greeks, made her people acquainted with the use of wheat and the mode of cultivating it. To an Empress of China we are indebted for the mulberry tree and the rearing of silk worms. Woman of late years has demonstrated her capacity of shining in many spheres once considered the peculiar province of man. Miss Herschel has discovered comets; Mrs. Somerville laid open the mathematical structure of the universe; some have analyzed the chemical relations of nature in the laboratory, and others investigated the laws of social relations. With such a great amount and variety of power, may we not augur the most beneficial results to agriculture, if the women of our country, by their sympathy, encouragement and co-operation, by their studies and counsels, would prove themselves, as did the women of old, helpmeets to him whom God has ordained to cultivate the earth?

Let us hope that the approaching Agricultural fairs throughout the country will result in attracting universal attention to the encouragement of agriculture. In his last message to Congress, President Washington said:

"It will not be doubted, with reference either to individual or national welfare, agriculture is of primary importance in proportion as nations advance in population and other circumstances of maturity; this truth becomes more apparent and renders the *cultivation of the soil more and more an object of public patronage.*

"Institutions for promoting it grow up, *supported by the public purse,* and to what object can it be dedicated with greater propriety? Among the important means to this end, none have been attended with greater success than the establishment of boards composed of proper characters, charged with collecting and diffusing information enabled, by premiums and small pecuniary aids, to encourage and assist a spirit of discovery and improvement.

"This species of establishment contributes doubly to the increase of improvement, by stimulating enterprise and experiment, and by drawing to a common centre the results everywhere of individual skill and observation, and spreading them thence over the whole nation. Experience accordingly has shown that they are very cheap instruments of immense national benefits."

And yet this parting counsel of the Father of his Country seems to have fallen on deaf ears. Whilst nine-tenths of the American population live by agriculture, the word cannot be found on the statutes of the nation. From 1789 to 1836 there was no end of the provisions for the protection of manufactures—a question which has occupied as large a space in public attention as if nine-tenths of the population were engaged in that vocation instead of agriculture. From 1816 to 1856 we expended more than a hundred and fifty millions upon repairs, increase and support of the navy for the protection of our commerce, but not a dollar has ever been given for the direct encouragement of agriculture, that calling by which our countrymen live, and upon the success of which in America the world sometimes depends for deliverance from starvation.—*Baltimore American.*

THE TEA TRADE.—During the year ending April 30, 1860, there were exported from China to the United States 31,661,426 pounds of tea. The export to Great Britain for the same period amounted to 78,416,052 pounds.

Rotation of Crops.

It has long been a settled fact in agriculture, that the greatest return from the soil is generally secured, not by continuously growing one plant, even though it command the highest market price, but by an alternation or rotation of crops. There is no difficulty in cultivating any agricultural plant successively for any number of years on the same ground, provided enough be expended in putting the soil into the right physical and chemical condition. But such a procedure is usually more expensive than alternating the crops. The reasons of this are mostly contained in what has preceded, but a few words of explanation may still be useful. When a light virgin soil comes under the hand of the farmer, it yields good crops for a few years, but then subsides to a low state of productiveness. At first it may have yielded wheat; when no longer able to support that crop, it may still give fair crops of barley; the next year if put to turnips or potatoes, it may seem to recover its fertility somewhat, and produce a good burden of roots; but now it will not yield again a good crop of wheat, though probably clover would flourish on it.—The cause of such facts lie partly in the soil, and partly in the plants themselves.

As for the soil, as already stated, its composition and texture are perpetually changing. The quantity of organic matter especially, rapidly diminishes when the soil is under cultivation, and the soluble mineral matters are in most cases removed by cropping, faster than supplied by weathering or disintegration. As for cultivated plants, practical men have classed them according to their demands on the soil, as follows: Enriching crops, clover, lucern, and esparsette. Non-exhausting crops, peas and beans, also cereals when cut green. Exhausting crops, cereals, beets, turnips, carrots, and potatoes. Very exhausting crops, tobacco, flax, hemp, and hops. Among the causes of the different exhaustive effect of various plants, are the following:

1. Different extent or structure of roots and leaves. The enriching crops expose to the air an enormous surface of foliage, and throw out very large, long, and numerous roots. The cereals have much less leaf and root surface.

2. Different rapidity of growth. Clover and root crops continue in foliage during the whole season; while the cereals ripen in July or August.

3. Periods or crises of growth; seed production. Plants which ripen seed, require a better soil than those which only produce foliage, because the rapidity of assimilation seems to increase when the reproductive function comes into activity. Plants which ripen seed, may require a richer soil, not because they remove more from it, but because they need more in a given time.

4. Some crops are entirely removed from the soil, as flax; while others leave the ground filled with an enormous mass of roots, as clover; or strewn with stalks and foliage, as the potato and beet.

5. The quantity of ash ingredients removed from the soil by different plants, is widely unlike.

In the light of the above statements, it is easy to see that when a soil refuses to yield remunerative crops of shallow-rooted and quick-growing wheat, it may still produce a luxuriant growth of deep-rooted, large-leaved, and slow-growing clover. It is evident, too, that when a cloverley is broken up and sown to wheat, this grain may yield well, because the decaying turf and roots are a ready source of every kind of plant-food. This preparation of the soil for an exhausting crop, by the intervention of one of easy growth, is shown in the practice of green manuring, which is, in fact, a rotation of crops; but is also a fertilizing process, because the first crop is entirely sacrificed for the sake of the succeeding ones. Green manuring consists in plowing under clover, buckwheat, spurry, or other crops, when in blossom, so that the soil shall be enriched by their decay. As these plants (the last named especially) will grow on poor soils, it is possible by their help to reclaim the lightest sands, and bring them up to a fair degree of productiveness in the course of a few years.—*Prof. Johnson, in Country Gent.*

Treatment of Young Mares.

A writer in a late number of the London *Field*, in answer to the question whether young mares are injured for fast work by having colts at an early age, says:

"I have no doubt that the powers of a mare are seriously impaired for fast work after she has had a foal. It may not stop her growth, because a filly which has been well kept up to three years old, does not usually grow much after that period. It may not greatly detract from her appearance, although it must tend, in a certain degree, to increase that very usual defect in mares, the disproportionate weight of their carcass compared with the power of their legs. But the very fact is itself a strong presumption against the expediency of the practice. I imagine that those breeders who resort to it do so either from mistaken views of economy, or only apply it to such mares as they propose to retain for moderate work about home. Without entering at

length into the physiology of the subject, it appears to me that one consideration suffices to condemn the practice. The whole art of training a horse for a race, or preparing him for the hunting field or other fast work, consists in bracing his muscular system and discarding from the frame all superfluous matter. In the breeding animal the very reverse of this is required; our preparation must then be made for the total relaxation of the system, which is requisite for the birth of the young animal. When it is considered, moreover, that this state of relaxation is continued for six months longer, or until the foal is weaned, it must be evident that the system can scarcely be expected ever fully to recover its tone after prostration so severe and relaxation so protracted. The case of heifers and ewes feeding well under similar circumstances, to which my correspondent alludes in another part of his letter, is not a parallel one. In these latitudes we do not require our horses to lay on flesh, but to work. That exceptions may occur to the rule that breeding unfits a mare for fast work, I do not doubt; but it is never safe to take exceptions for a guide.

As far as my experience goes, its result is quite in accordance with theory. I once had a mare which had bred a foal at four years old. In spite of her being well bred, powerful, with a handsome figure and fine action, she was worthless as a hunter. What made this the more remarkable was that she belonged to a family celebrated for their excellence in this respect. She had no unsoundness, she was a fine goer for a short distance, but was useless in a run, although no fault could be detected in her wind. She appeared utterly to flax after an amount of work which to an ordinary hunter would only have been exercise. She was a hearty feeder, and was capable of standing a good deal of slow work, as, for instance, in harness.

I consider, in short, that to breed from a growing filly is to run the hazard of unfitting her for fast work."

How to Measure Corn in the Ear.—Arrange the corn in the pen or crib so that it will be of equal depth throughout; then ascertain the length, breadth and depth of the pile; multiply these dimensions together, and their product by 4½; then cut of one figure from the right of the last product, and the remainder will be so many bushels of shelled corn; and the figure cut off will show so many tenths of a bushel more.

Example.—In a crib or pen of corn in the ear, measuring ten feet long, eight feet high and seven feet wide, there will be 252 bushels of shelled corn. Thus: 10x8x7x4 12=252.0.—*Ex.*

Rye Grass.

The cultivation of rye grass in the United States has never been carried to any considerable extent, except (so far as we have been able to learn) in a few instances. The Messrs. Raybold, of Delaware, were among the first to give it a fair trial. How much of the credit which these gentlemen received for producing the largest and finest mutton ever sent to the Philadelphia market, is attributable to rye grass pasture, we have no means of telling, but are induced to think that something is at least due to it.

For hay, rye grass has not been so favorably regarded as timothy and some other of our leading grasses. This we are inclined to attribute to the fact that it is less bulky, and decidedly heavier when cured than any other. We have been informed by several practical farmers, that horses prefer it to timothy, and that pound for pound they appear to thrive equally well upon it.

Perennial Rye Grass (Lolium Perenne) has been more extensively cultivated in England than any other kind. There are numerous varieties of it, and its reputation as an important and valuable grass plant, ranks very high with English farmers. Its roots are fibrous, and it succeeds well upon a variety of soils, though perhaps best upon such as are moderately moist. Its seeds ripen uniformly, and as it produces profusely, great facilities for propagation are afforded.

One of the principal merits of this grass consists in its complete adaptation for sowing with clover. Having a stiff stalk, it supports the clover to a certain extent, and prevents its lodging, while its more rapid growth protects the clover in its earlier stages.

As a pasture grass, it has strong claims upon the consideration of farmers. It is not only one of our earliest grasses, but one of the latest also. Mr. B. Raybold, (to whom we have already referred,) in reply to inquiries addressed him a few years since, says of it:

"My experience in the use of rye grass has been, that cattle, sheep, or horses prefer it, either for pasture or hay, to timothy. For pasture, it will afford more feed than any other kind of grass; in fact, it requires to be fed close to prevent it from getting rank and going to seed. The quantity to be sown per acre is one peck if sown with clover, and two pecks if sown alone. I sow either in the fall or spring, but think it takes best in the fall. It does well in spring also, sown at the same time with clover. It ripens for mowing one or two days earlier than clover; it is, therefore, better to be sown with

clover than timothy. Its fattening qualities are equal to the best natural grown grasses."

This is the testimony of one who has given this grass a fair trial. In the absence of any thing of an opposite character, we have every reason to think its more general introduction desirable. If any of our readers have experimented with it, we shall be pleased to hear the results.

The height of this grass is about three feet. It flowers early in June in favorable seasons, and ripens its seeds in three weeks after flowering. When it is desired to save the seed, the cutting should be done two weeks after flowering, as the seeds are easily shaken off and lost when too ripe.

The stems tiller very much, the lateral leaves being abundant, giving it a special value as a pasture grass.—*Farmer and Gardener.*

Pure or Adulterated Wines.

We copy the following record of the proceedings of a recent convention of fruit and wine growers of South Carolina, and commend most heartily their action. In this country we labor under one great difficulty, which time alone can remedy—it is that our native grapes abound in *malic* instead of *tartaric* acid. Tartaric acid is the acid of wine, and all excess is separated from the wine as fermentation proceeds; but malic acid is not thus separated, so it follows that when this acid exists in abundance, the wine will be sour. But, happily, cultivation will increase the quantity of tartaric acid, and diminish that of malic, so that by patient and discriminating culture and propagation we may anticipate with confidence amounting to certainty, that we shall soon, as the Germans forcibly say, *ennoble* the vine, so that we can produce from it choice and highly flavored and perfumed wines. The record referred to is as follows:

Resolved, That this Convention earnestly recommend to the wine-growers of the United States to adopt a uniform system of naming and labeling their wines, according to the universally received plan of taking for general application the name of the State wherein made; then the special name of the neighboring town or river; and lastly, the private name or brand of each manufacturer.

2dly, Whereas, it appearing to our satisfaction that the taste of a great majority of our people demands a full bodied wine resembling Madeira or Sherry, or a sweet wine, any of which cannot be made without an addition of spirits or sugar, and in order as much as possible to prevent the adulteration of our wines when thrown upon the market, be it, therefore,

Resolved, That a moderate addition of brandy to the must, or a concentration of grape sugar by desiccation of the fruit, or other means, is both proper and judicious, and, in the opinion of this Convention, is not and cannot be considered as an adulteration of the wine.

The first was adopted, and the second was rejected by a large majority, after a prolonged debate. In advocacy of the latter, Mr. De Caradeuc said:

"The question now before us is, whether it be the policy of the producer to preserve the juice perfectly pure, and wait until the taste of the consumer can be brought to relish a light and delicate beverage, or, by an addition of alcohol or sugar, to furnish to the public one more suited to their palate. I have come to the conclusion that it is injudicious to follow exclusively the first plan. It is true that wines made upon the pure principle have heretofore been in great demand, and that the supply has not kept pace with the demand. But we must look forward to a vast increase of this supply, and if we wish to find sale for this, we must add brandy or concentrate the grape sugar."

In the debate which ensued, the whole question was narrowed down to this: whether cultivators of the grape should adhere to the production of a pure wine, which would inevitably be termed "sour," although a chemist might not be able to detect a trace of vinegar in it, or be governed by motives of cupidity, and fabricate a compound better adapted to receive the approval of a vitiated taste. There is no question but the popular estimate of wine in this country is such that adulteration is demanded; and it is creditable to the Convention lately in session at Aiken, that it refused to give its sanction to adulteration, although by so doing they might give much more popularity to American native wines. For once, principle was superior to any sordid consideration.—*Homestead.*

HOUSING CATTLE.—An English experimenter last autumn tied up four bullocks under a hovel, three in separate boxes, and kept seven loose in two yards, four in one and three in another, each having a hovel or shed to run under. The fourteen beasts were all alike in age, and were treated in the same way, namely: eight pounds of linseed cake each per day, three-quarters of a bushel of mangel wurtzel, and hay or oat straw distributed equally to all. Those shut up in the boxes and those tied up were all ready for market first, and those fed in the yards replaced them in the boxes, but when they came to be marketed, it was found they were not ready by a month as early as those that were tied or fastened up.

Butter for Market.

Benton & Caverly, of Boston, have published a circular for instruction to those who are preparing to make butter to pack down for that market, from which we take the following suggestions as worth noting by many of our dairy men and dairy women:

1st. Cows of good milking qualities (that is, such as give good milk.)

2d. *Food.*—Keep the pasture free from rank and strongly flavored weeds. Pasture should be of hilly or rolling lands, with good, clear, running water. Pungent roots and vegetables, such as turnips and cabbages, are apt to injure the flavor of the butter, and injure its keeping qualities. Pumpkins and carrots are the best vegetable food when the season of grass is over, and give a fine color to the butter. But ground feed, such as the bran of wheat, rye, oats, or buckwheat, is believed to be best in winter, as it keeps the cows in thriving condition, without too much increasing their fat, and makes the best keeping and best flavored better.

3d. Keep the cows quiet, particularly during warm weather. The milk given by cows when in the periodical fever, or when heated from any cause, will not make the best flavored or best keeping butter, and should be rejected for such use.

4th. Keep the atmosphere of the milk-room perfectly fresh and pure—free from vegetables of every kind, and at as even a temperature as possible. It should not be warmer than 95 degrees. Open the windows at night and close them in the morning, during warm weather. As soon as the milk coagulates, or just before the change occurs, it is ready to be churned or skimmed. Some of the best butter-makers churn the milk with the cream; others skim and churn only the cream. When skimmed, the cream may be kept in the cream-jar twelve or twenty-four hours, occasionally stirred, but never covered. Tin pans are commonly used for settling milk, but tin pails, holding twelve quarts, are used by very many good butter makers. The Scotch butter makers prefer earthen as a general thing.

5th. The contents of the churn should be at the temperature of 64 degrees. Neither hot nor cold water should be turned into the churn to regulate the temperature. Setting the churn in hot or cold water is a better way. Hot water turned into the churn injure the color and grain of the butter. Soft water is indispensable for washing butter to the best advantage. If you cannot otherwise get soft water, save rain-water and cool it with ice. The water from ice is always soft. When thus washed it is ready for salting. When the conditions are right, the butter will "come" in twenty or thirty minutes. When done, the butter should be taken from the churn and put into smaller vessels partly filled with water at 40 to 45 degrees, and the buttermilk forced out with a small dash or ladle.—Then put in trays and wash until the water ceases to be the least discolored with buttermilk. The great point to be attained in washing or working butter, is to expel all the buttermilk without overworking the butter, which spoils the grain, and renders it sticky or greasy. After the butter has stood in trays about twenty-four hours, and been worked lightly three or four times, it is ready for packing. Some good butter makers do not work so many times—some good butter makers never wash their butter at all, only in very hot weather. After the firkin or tub is filled, the butter should be covered with a thin piece of muslin, and the whole covered with salt and kept moist. Over-salting is one of the most common faults of butter making. Coarse salted, or over-salted butter, so that it will grate in the teeth, must be sold from three to six cents per pound lower in the market. About the best rule for salting butter is for every one to salt to suit their tastes.

The tubs or kegs should be filled with a hot brine made of clean salt, and soak at least twenty-four hours before any butter is packed in them. The butter should be packed solid. A hard wood pestle or maul of three or four pounds weight is a good thing to pack it down. White oak, or the heart of white ash firkins, holding about one hundred pounds, are most largely used, and decidedly best where the butter is to be kept a long time, Other kinds of wood impart injurious flavors to the butter.

High Price of Meat in England.—The coldness of last winter and spring in England, and the consequent scarcity of cattle food, has greatly reduced the number of cattle and sheep usually fattened and brought to market, and the price of meat is unusually high. The best of beef sells in London, by the carcass—according to the quotations of July 21—at 16 to 17 cents per lb.; and prime mutton at the same price. The *Mark Lane Express* says: "A vast number of cattle and sheep have been actually starved to death from the scarcity of food. In Scotland and Ireland and the north of England the sheep and lambs have perished by thousands; and in Ireland, the cattle by hundreds, from positive starvation."—*Genesee Farmer.*

The American Farmer.

Baltimore, November 1, 1860.

TERMS OF THE AMERICAN FARMER.

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N. B. WORTHINGTON. THOS. B. LEWIS.

WORTHINGTON & LEWIS,

Publishers of the "American Farmer,"

CARROLL HALL, S. E. Corner Baltimore and Calvert streets, Baltimore.

☞ MR. WM. C. LIPSCOMB, JR., is our Traveling Agent for Maryland and Virginia.

The State Agricultural Society.

We are glad to be able to say that the prospects of a good show of the State Agricultural Society are at the time of writing this very favourable. More stalls for stock are engaged, we understand, than heretofore at so early a period. We feel sure that the enterprising machinists of the city will do their part. A good display of Implements is a matter of prime interest to the great mass of farmers, and we have manufacturers enough in Baltimore to make the Show a grand one in this respect, aided as it always is by many from abroad.

We trust the farmers will be here in their strength, and that the profitable use of the evenings of the week will inaugurate a new era in the existence of the Society. The gathering together of the farmers of our own and other neighboring States, and a free talk over matters which concern their calling, will be found undoubtedly a source of great profit, and we hope to see this feature fostered.

Prince George's County Ag. Society.

We learn from the Marlborough papers that the Agricultural Society of Prince George's Co. is revived, and Clement Hill, Esq., elected President. We earnestly hope that other counties of the State will follow this good example. Why is it that we have so few county societies? Why is there not in every county, at least one association of farmers for the purpose of advancing the farmers interests, and helping forward the work of improvement? This Society had determined to hold an exhibition this fall, and had called on the ever ready "Patuxent Planter" and orator, W. W. W. Bowie, Esq., to address them. On further consideration, however, it was deemed expedient to postpone the Exhibition to another season, the late day at which the Society was organized not giving the farmers sufficient notice for preparation.

The Southern Fairs.—The Georgia Convention.

We have been greatly gratified at the friendly and pressing invitations to attend the various Southern Fairs and Exhibitions.

A gentleman officially connected with "the Planters Convention of Georgia," of which the Hon. Howell Cobb is president, writes as follows: "It will give us much pleasure to extend to you the hand of brotherhood and the privileges of our ground during the Exhibition. We are anticipating a rich feast, and shall have a good 'Foreign Department,' and it will be well sustained. Is it not convenient, and is it not your interest to participate in our social industrial festivities, and help us to bind closer the ties of the best human government upon earth? Come and be a participant in our conventional festivities."

We have received copies of the programme of this Exhibition, to take place in December, and will take pleasure in showing it to any one disposed to participate, (and we hope there will be many Baltimoreans,) in what will be one of the most important Agricultural exhibitions ever held in the Southern States.

ANOTHER GUANO WAR.—The advertisement of Mr. Elliott with reference to Sombrero Guano, and several communications we have received, indicate a discussion which is likely to bring out the merits and demerits of two prominent articles in the Guano market. Of course we do not by any means endorse the charges and allusions of a personal nature contained in this advertisement. The complaint of the proprietors of Sombrero Guano is laid against articles published in our journal as calculated and designed to injure their property. We received these articles in good faith from Dr. Stewart, believing then, as we believe now, that they came from an entirely disinterested source, and presented a fair topic of discussion.

☞ The Virginia Fair, at Richmond, opens, we learn, with excellent prospects of success. There is a very superior show of horses and other stock.

Water for Manure.

Does it pay to introduce water in large quantities into the farm yard, and haul it out for manure? We think not; yet some of our friends who have had a large experience in this way, and who we must presume have counted the cost, may enlighten us.

Yesterday was a rainy day—very rainy. For twelve hours the rain came down, down, down; not violently, but earnestly. This morning our friend B.—whose farm yard is made to hold water, and whose buildings are well arranged to pour all their catchings into it—finds it a convenient time to haul out manure. Ox teams and horse carts, and all hands, are pitching and tossing and dragging out some manure, and a great deal of water. We should like to know how much manure and how much water; and whether, the ground being already thoroughly soaked, this extra water pays for the handling and carting and spreading.

An intelligent gentleman said to us recently, that he had ascertained by a careful trial, that a bulk of manure would absorb, under ordinary exposure to weather, three times its own weight of water. In hauling such manure, seventy-five per cent. of the weight would be water of course. In other words, the man who hauls out a hundred loads of this watered manure, hauls seventy-five of water and twenty-five of manure.

We wish it understood that the gentleman whose operations are alluded to above, is not one of your "book-farmers,"—he never reads an agricultural paper, not he; he is one of your practical men!

Corn Cob Meal.

Our exchanges occasionally pick up an old item, published many years ago in the *American Farmer*, which we are not willing, at this date, to be held responsible for. Such an one is the earnest exhortation to all who regard the welfare of their pockets to gather up diligently their corn cobs and have them ground into meal for milch cows—not the corn *and* cob ground together, (this we know many careful farmers use to great advantage,) but the cob alone. Notwithstanding that it is found to yield, on analysis, some of the elements of nutrition, we have not faith enough in mere chemical indications, to have put a cow on a diet of "ground corn cobs and cut straw," as has been recommended, and as the *American Farmer* has very recently had credit for in some of the papers. We decline emphatically the "credit" of the recommendation, and denounce the feeble compound in the name of the "milky mothers."

The corn and cob together is a very different matter. In this mixture, while the small amount of nutriment in the cob is availed of, its bulk, by its action on the stomach, aids the digestion of the too concentrated nutriment of the grain.

If, however, any of our readers have been beguiled into the use of "ground cobs and cut straw," and have a good opinion of the mixture as cow food, and will give us a careful account of their experiment, including cost of preparation and all attending circumstances, we shall take its value into further consideration.

Home Improvements.

May we presume to say a word to farmers in behalf of their wives. We heard a lady, recently, express very serious disgust with farm-life, on account of the incessant demands of the farm work proper for all the labour to be had, and the impossibility of making and keeping up for want of help, such improvements as the lady of the establishment should have charge of, and would be interested in. Another lady from town, whose ideas of country comfort embraced ample supplies of the best fresh vegetables, fruits, &c., expressed her surprise that on a recent visit to an acquaintance in the country, she found not a vegetable on the table but potatoes.

If we supposed that these were singular instances, they would not of course command our attention in the columns of the *Farmer*, but we know they are far too common. We know that country people who have within their reach innocent pleasures and comforts without number, overlook and disregard them. And we believe a great deal of the restlessness and desire of change, and dissatisfaction which characterises our country people is due to this neglect, and to untasteful, cheerless, comfortless homes. The subject, then, is worthy of comment. Our good offices are due not to the farm only and its money getting, but to those who live on and by the farm, that good-living may grow out of good farming.

We say "good-living," and we mean that, not in a material sense only. We would have indeed more than potatoes on our list of vegetables. Our monthly hints embrace many. We would have many fruits, and good domestic wines, and the best milk and butter, and fat poultry and good beef and mutton and ham. We think it is the duty of every man who lives in the country to have and enjoy all such "creature comforts" as he can so readily command. They are God's good gifts to him, and they offer a telling argument to men of good taste and good appetite in favour of country life.

But there are refined enjoyments and pleasures peculiar to a country home which rise far above these things. The pure, unmixed enjoyment which springs from daily loving intercourse with the beauties of nature. A man may dispense with these, but a woman never. His business is abroad, and he may find recreation in his rides to the post office, with his fishing rod or his gun. The wife has no such resources. The home is her life scene. Her place is of necessity with her children and her household. But she needs occupation outside of the drudgery of house-work and dinner-cooking, and amusement less expensive, more various and more healthful than piano playing. She needs in fact just the recreation and exercise which the lawn and shrubbery and flower garden offer. In the gratification of a refined and elegant taste, her health and strength are preserved; she fastens the affections of her children on the scenes of their childhood, and by the ever growing beauties which adorn her home, helps the argument in favour of country life, by developing its resources as well for refined enjoyment as for solid comfort.

But a woman cannot do these things herself; she must have help, and regular. systematic help. She may direct all, and she may do much, but she cannot do all. And here lies the practical difficulty. We do not advocate expensive improvements, which are within the reach of few, nor even contemplate the employment of professional aid. A few days' labour of the farm force at the more leisure seasons of the year, in the preparation of the ground, and a few hours every week throughout the year, will accomplish probably all that may be required, and much more than a gardener whose time is all given to the purpose, and half of it wasted or improperly directed. The daily care should be that of the mistress, with help from her sons and her daughters, and cheerful, willing aid once a week under her direction, from all or any of the farm hands that she may require. The diligent farmer, intent on the main chance, would grumble a little at such an arrangement in the beginning, but he would find it in the end a cheap purchase of an amount of pleasure and profit which can hardly be estimated. The plan of operation is applicable to all cases. To the poor man as well as the large farmer. Every home should have its proper appendage of flower borders, shrubbery, and lawn, on however small a scale. A little kindly thought and consideration for the gratification of the wife, and an occasional strong hand to help her, will accomplish all that need be done. Let the men think of it.

The Crops and Prices.

The following items of intelligence as to crops afford no ground for change of opinion as to the demand for all the Breadstuffs we may have to spare at good prices. It always happens that early in the season every opportunity is made the most of, to depress the price of what the farmer has for sale. This was well exemplified recently, when after a whole season of most wretched weather in England, a week or so of good weather at harvest was found sufficient to insure a good crop of grain and to strike down prices for a while. This has past, and the report of exports from New York are telling the truth:

A GREAT EXPORT MOVEMENT.—The exports from the port of New York for the past week are valued at *more than three million six hundred thousand dollars*—larger by nearly a million, than any previous week in the history of our commerce. Nearly or quite one-half of this great value was made up of Breadstuffs, and included the following quantities of domestic produce: 7,000 bales cotton, 90,200 barrels flour, 900,000 bushels wheat, 845,000 lbs. cheese, 42,240 gals. sperm oil, 13,600 barrels rosin, 2,278 hhds. and cases tobacco, 333,000 lbs. manufactured tobacco, 318,000 lbs. tallow, 4,300 bales hops, 29,600 lbs. whalebone, 1,300 pkgs. cotton goods. Liverpool and London take nearly one-half the value of the exports, and British Ports in the United Kingdom, Ireland, or Dependencies, more than two-thirds. Indeed, except cotton to Havre, there is little to swell the value of the exports to other than British Ports. The effect of the heavy shipments to British Home Ports has depressed Exchange, and nearly stopped the export of specie.—*N. York Enquirer, Oct.* 17.

"THE CROPS ABROAD.—Almost all over Europe the pitiless shower seems to have been descending. In the wine districts of France they are debating, not whether the wine will be worth anything this year, but whether the grapes will be worth the trouble of gathering them. In England the fate of the hop is settled; the bitter of the beer must come either from abroad, or illegally from the druggists at home. The prospects of the winter are on several accounts far from cheering."

☞ Oliver Taylor, of Loudon county, Va., in the *Gardener's Monthly* for October says: "I think experience will prove that we make a sad mistake in planting grapes in warm, sheltered places. I find the north side of a hill the best as less likely to rot, and ripens better."

Ice Houses.

An esteemed friend of the "Farmer" in Hanover county, Va., writes us, that many of our readers residing upon "the world-renowned amphitheatre, the Slashes of Hanover," wish to have our views especially as to "the very best way to keep ice in houses above ground, as they are compelled to have them."

Having in the number then about being issued given (in reply to another correspondent) an article which the writer of this letter had not seen, but which corresponds in the main points with his own views, we did not use his favour as we should otherwise have done, nor pursue the subject farther. The following we find in an exchange, but do not know where the credit of it is due. The suggestion of confined air as a non-conductor of heat is not a new one, and is doubtless as efficient as charcoal or other materials suggested. Our correspondent says: "My own plan to keep ice well above ground, is that a double house entire should be made; i. e. build one house two feet smaller than the other, and fill in between with sawdust or dirt well packed. Have a covering to each upon sheathing and rafters, and fill between with pure saw dust. Then insert the ice in a perfect envelope of clean oak leaves, bottom, sides and top, to exclude the free action of the air." The extract alluded to above we quote as follows:

"The perfect success, says a distinguished writer in one of our contemporaries, which I met in keeping ice last summer, I think, is owing largely to a new principle involved in the building; therefore, I speak of the plan for the consideration of those who are about to build for that purpose. Instead of one hollow wall, for a non-conductor of heat, as is in ordinary ice houses, I have two, with a space between them, for confined air. The site is on a gravel slope. The foundation (for convenience in storing ice) is dug two feet below the surface of the ground. The outside wall for non-conducting material, is six inches in the clear. The inside wall is four inches, with a space between for non-confined air of four inches. The doors for entrance correspond perfectly with the hollow walls in thickness, and are filled in the same manner—being shaped to shut with a bevel edge, like the doors to safes used by merchants and bankers. At the lower side of the plates is a ceiling, upon which I put spent tan one foot thick, which tan is in direct connection with the side walls, so that any settling in of the walls may be supplied from overhead. From the under side of the ceiling runs a ventilator, with a hole of one and a half inch bore, up through the roof, and is flushed with an ornamental cap.

The room for ice is eight by ten feet in the clear, and eight feet high. Without a more minute description, I think the building will be understood. About all the waste of ice I observed during the summer, was at the bottom; and this was so slow that we used the ice without regard to economy, for a large family, and in a dairy of thirty-five cows, besides giving freely to our neighbors.

I put sticks four inches thick in the bottom, to put ice on, and also some straw about the sides as well as underneath the ice."

The Fig.

This Southern fruit is either rated much below its merit, or it is thought not hardy enough to endure the cold of this latitude. In sheltered situations it bears well in Maryland, and should be in every garden. We give the following with reference to it from the *Southern Cultivator:*

"Of all the fruits cultivated in the South, the fig requires the least care, and is one of the most productive and useful. South of the latitude of 32 degrees, the fig tree produces three crops a year, commencing in May and bearing until November, but in Central Georgia we generally gather but two crops a year, unless the season is peculiarly favorable, the first or early crop being often killed by spring frosts. The figs are mostly eaten directly from the tree as soon as ripe, and may be found in abundance upon the breakfast table of all lovers of fine fruit. The fig tree grows very freely from cuttings, planting early in the spring, and will sometimes bear the first year, generally the second. It has ever been a source of surprise to us, that the fig is not extensively cultivated, and turned to more profitable account; but this is not the only instance in which the prodigal and generous gifts of nature are lavished upon man in vain. We hear of gentlemen near Mobile, upon the Gulf, who have planted the fig largely, with the intention of using the fruit as Northern farmers use apples —for the purpose of fattening hogs."

☞ Farmers need to be reminded, occasionally, as fall and winter creeps along and brings with them rain and storms, that they have ploughs, harrows, cultivators, reapers and mowers that are laid by for the season, and will not be wanted until another year. Prepare a shelter at once and house them carefully.

Rotation for a Grain Farm.

To the Editor of the American Farmer:

As I am a young farmer, I am unable to communicate, through the columns of your "excellent paper," anything of my own experience which would be interesting or beneficial to its many readers; but I write to ask of you information which might be highly profitable, not only to your "unworthy writer," but to a goodly number of your subscribers in this section of the country, who continue to practice the old "three field system of corn, wheat and pasture, notwithstanding they are wearing out their land without remunerative crops. The very "meagre" crops which have so far crowned my efforts, I attribute to this system, together with the ravages of the fly and joint-worm, and have determined to try a change, which has been partly carried out, in cutting off a standing pasture of land, very much broken, and still throwing the rest into three fields, which are not to be grazed. Now this is the question I am aiming at: shall I—in order to improve my land—sow wheat after corn and clover after wheat—or shall I sow peas after corn, to fallow for wheat, and dispense with clover by having to follow wheat with corn? Any information on this subject will be thankfully received by a "SUBSCRIBER."

King and Queen Co., Va., Sept. 15, 1860.

In direct reply to the question of our correspondent we would answer, give the preference to clover over peas on all lands capable of producing a good crop of clover. The peas, valuable as they undoubtedly are, are in no point we think better than clover. With clover we have this advantage, that in a three years rotation, the first year being occupied with corn and the second with wheat up to July, the remainder of the time, until we break up for corn again, about 20 months, the ground is entirely occupied with clover, giving it the benefit of a sod to protect from washing and a covering both winter and summer. The three field system, with moderate grazing, and the aid of standing pasture, is not a hard one for the land, but is not a very productive one. For a grain farm, we should give the wheat crop, as the most remunerative, a better chance than it can have when hurried in after the corn is out of the way, and following immediately that exhausting crop. Wishing to gratify the interest our correspondent feels, in common with many others, in the subject of a rotation for a grain crop, we give in another column an article of Prof. Johnson, presenting the principles on which rotation is based, and append an article by ourselves, published more than two years ago, in reply to a correspondent from North Carolina, which is as follows:

There are two things which the right thinking farmer has always in view: 1st, an annual income; 2d, the gradual but certain improvement of his land. Putting out of view any extraneous means of which he may be possessed—the income is the first necessity. He must make himself as far as possible sure of this, but he must not for this purpose, pursue a system which would be inconsistent with the second object. He must in his arrangements give due consideration to the proper and permanent improvement of his land. Keeping these principles in view, let us consider the case which our correspondent proposes.

In cropping, the leading principle is *to take the best care of the staple crop.* To give it the best preparation, and the best position in the rotation.

Where cotton is the reliance for an income, it receives the chief attention, and has its wants first looked to; so with tobacco, or whatsoever the crop. In this case wheat is the main crop, and claims by virtue of the principle the best position in the programme. This place without question is the clover-fallow—as being, all things considered, the best and most certain preparation for this important crop. The manure which the crop would receive would go to the poorer portions of the field, so as to create uniformity as far as possible. The corn would follow the wheat, then oats and then clover. This we would advise, looking only to immediate income. But the question now arises, how far such a rotation is consistent with the other consideration—the improvement of the land. Or as between the two plans proposed, which is best, looking at the same time to both considerations.

Under the plan which gives the clover fallow to the wheat crop, the land lies after harvest, until the ploughing for corn next winter or spring, with no useful crop upon it, except so far as the growth of weeds turned under, may be useful—a benefit counterbalanced it may be, by noxious insects to which they give harbour. The corn takes the second place, the oats the third, and the clover the fourth. Now as regards the improvement of the land, the clover of course holds the first place, but it holds in this rotation the fourth. Three exhausting crops take immediate precedence of it, and it comes in with a secondary crop (that of oats) which is not of sufficient importance to command ordinarily either the manures of the farm-yard, or those which we purchase. Nor is the crop of oats considered so favourable to the success of the clover sown with

it as wheat. The clover therefore, while the improvement of the lands is dependent upon it, has the worst possible chance of success. Under the plan which puts the corn upon the clover sod, the first effect is the falling off of the staple, wheat, which follows the oat stubble, but the increase at the same time of the crop of corn. The yield of corn will not only be more abundant under favorable conditions of the season, but much more secure against injury by drought. The crop of oats will be better, too, for being nearer the clover sod. The increase of these two crops will compensate in a measure at least, for the falling off in that of wheat. But the wheat crop is worth making a special effort for, and will command the best offices of the farmer, not only in raising manures upon the farm for it, but in buying fertilizers to insure a crop. With these helps we know that judicious farmers in many sections of our grain-growing country look with great favour upon the oat stubble as a preparation for wheat. The ploughing of a clover field is much more dependent on the state of the weather than the oat stubble, and in times of drought the fallowing is often delayed to a very late period. The breaking up of the oat stubble destroys only the growth of weeds after oat harvest—the breaking up of a clover fallow destroys a crop of clover whose beneficial effects might have continued at least six months longer. But the most material point is this, that the clover crop gets the benefit of the extra preparation and manuring for the wheat crop. It comes in for a share of the manures at any rate, and a small share will give it an important impetus. There is this consideration also, and the experience of last season will give force to it, that the wheat crop failing, a valuable crop is still upon the ground to get the benefit of the manures. If he does not get the value of his manures in the crop, he gets it in the improvement of the land. With wheat upon the clover sod, if the crop fails, the strength of the land and whatever of manure may have been used goes to the immediate nourishment of an extra crop of weeds.

For these several reasons, we advise our friend in choosing between the two, to adopt the rotation which puts the wheat upon the oat stubble; giving it all the manure he can afford it. If he lose somewhat in the start, he will be abundantly compensated in the end by the improvement of his land.

If he can dispense with the crop of oats altogether, and will substitute the field pea, sown broadcast in May, he will have a fallow for his wheat hardly inferior to the clover, and the change will greatly benefit his land.

On Navaza Guano.

CHEMICAL LABORATORY, No. 19 E. 12th st.
NEW YORK, Oct. 17, 1860.

To the Editor of the American Farmer:

A misrepresentation of my analysis of "*Navaza Guano*," by E. K. Cooper, in his advertisement in the *Rural Register* of October 15, 1860, renders it necessary that I should tax your columns for sufficient space to present the true statement, which is as follows:

Result, per cent., of a Chemical Examination of "NAVAZA GUANO."—*Sample obtained from the State Inspector at Baltimore, as an average of six cargoes imported in* 1859.

Water	2.20
Sand and Silica	5.60
Organic matter, insoluble	1 48
Organic matter, soluble	10.20
Fluorid Calcium	Traces
Sulphate Lime	2 49
Lime (with Organic Acids)	12.47
Carbonate Lime	2 00
Bone Phosphate Lime	37.72
Common Phosphate Lime	....
Phosphates Magnesia	2.70
Phosphate Alumina	10.56
Phosphate Iron	2.20
Chlorid Sodium	Traces
Chlorid Potassium	....
Silicate Potassa and Lime	....
Oxide Iron	3.50
Alumina	7.04
Total	100.16

Commercial and Agricultural Expression.

Actual Bone Phosphate	40.44
or	
Calculated Bone Phosphate	50.76

I object, only, to the garbling of my formula, by Mr. Cooper, because he has made it suggestive of that stinted and reproachful measure of skill which so often characterizes chemical analyses, and particularly those of Guano. It is simply impossible, after all the other incongruous elements of this Guano have been separated and estimated quantitatively, that there could be sufficient margin left for the amount of Phosphate Lime credited to it by most other chemists than myself. Therefore, in due time, when I shall have developed all the facts, in point, *by actual experiment with new samples and cargoes*, I shall speak further upon this subject and will be able, I am sure, to confirm not only what I have said, heretofore, in regard to the fabulous qualities or extraordinary samples of Navaza, but even show results which may place it, indisputably, out of the category of guanoes

Your ob't serv't,

CAMPBELL MORFIT.

The potato rot prevails all over the country, we believe.

TABLE OF PREGNANCY, *which expounds the* PERIOD *from the beginning of the pregnancy of the* Cow, *until the birth of the calf in* 40 *weeks, or* 10 *lunar months, or* 9 *solar months,—in behalf of a quick and easy survey for every day of the common year.* (*Prepared for the American Farmer.*)

JAN.	OCT.	FEB.	NOV.	MARCH.	DEC.	APRIL.	JAN.	MAY.	FEB.	JUNE.	MARCH.
1	8	1	8	1	6	1	6	1	5	1	8
2	9	2	9	2	7	2	7	2	6	2	9
3	10	3	10	3	8	3	8	3	7	3	10
4	11	4	11	4	9	4	9	4	8	4	11
5	12	5	12	5	10	5	10	5	9	5	12
6	13	6	13	6	11	6	11	6	10	6	13
7	14	7	14	7	12	7	12	7	11	7	14
8	15	8	15	8	13	8	13	8	12	8	15
9	16	9	16	9	14	9	14	9	13	9	16
10	17	10	17	10	15	10	15	10	14	10	17
11	18	11	18	11	16	11	16	11	15	11	18
12	19	12	19	12	17	12	17	12	16	12	19
13	20	13	20	13	18	13	18	13	17	13	20
14	21	14	21	14	19	14	19	14	18	14	21
15	22	15	22	15	20	15	20	15	19	15	22
16	23	16	23	16	21	16	21	16	20	16	23
17	24	17	24	17	22	17	22	17	21	17	24
18	25	18	25	18	23	18	23	18	22	18	25
19	26	19	26	19	24	19	24	19	23	19	26
20	27	20	27	20	25	20	25	20	24	20	27
21	28	21	28	21	26	21	26	21	25	21	28
22	29	22	29	22	27	22	27	22	26	22	29
23	30	23	30	23	28	23	28	23	27	23	30
24	31	24	DEC. 1	24	29	24	29	24	28	24	31
25	NOV. 1	25	2	25	30	25	30	25	MAR. 1	25	APR. 1
26	2	26	3	26	31	26	31	26	2	26	2
27	3	27	4	27	JAN. 1	27	FEB. 1	27	3	27	3
28	4	28	5	28	2	28	2	28	4	28	4
29	5	(29)	(6)	29	3	29	3	29	5	29	5
30	6	.....		30	4	30	4	30	6	30	6
31	7	.....		31	5	.....		31	7	.....	

JULY.	APRIL.	AUGUST.	MAY.	SEPT.	JUNE.	OCTOBER.	JULY.	NOV.	AUGUST.	DEC.	SEPT.
1	7	1	8	1	8	1	8	1	8	1	7
2	8	2	9	2	9	2	9	2	9	2	8
3	9	3	10	3	10	3	10	3	10	3	9
4	10	4	11	4	11	4	11	4	11	4	10
5	11	5	12	5	12	5	12	5	12	5	11
6	12	6	13	6	13	6	13	6	13	6	12
7	13	7	14	7	14	7	14	7	14	7	13
8	14	8	15	8	15	8	15	8	15	8	14
9	15	9	16	9	16	9	16	9	16	9	15
10	16	10	17	10	17	10	17	10	17	10	16
11	17	11	18	11	18	11	18	11	18	11	17
12	18	12	19	12	19	12	19	12	19	12	18
13	19	13	20	13	20	13	20	13	20	13	19
14	20	14	21	14	21	14	21	14	21	14	20
15	21	15	22	15	22	15	22	15	22	15	21
16	22	16	23	16	23	16	23	16	23	16	22
17	23	17	24	17	24	17	24	17	24	17	23
18	24	18	25	18	25	18	25	18	25	18	24
19	25	19	26	19	26	19	26	19	26	19	25
20	26	20	27	20	27	20	27	20	27	20	26
21	27	21	28	21	28	21	28	21	28	21	27
22	28	22	29	22	29	22	29	22	29	22	28
23	29	23	30	23	30	23	30	23	30	23	29
24	30	24	31	24	JULY 1	24	31	24	31	24	30
25	MAY 1	25	JUNE 1	25	2	25	AUG. 1	25	SEPT. 1	25	OCT. 1
26	2	26	2	26	3	26	2	26	2	26	2
27	3	27	3	27	4	27	3	27	3	27	3
28	4	28	4	28	5	28	4	28	4	28	4
29	5	29	5	29	6	29	5	29	5	29	5
30	6	30	6	30	7	30	6	30	6	30	6
31	7	31	7	.....		31	7	.....		31	7

Remark for understanding.—For example: if the 1st January was the day of conception, the 8th October will be the day of cast, etc., etc. I deliver the foregoing synopsis as an easy and convenient key for the use of each farmer and other owners of cows.

DR. RICHTER-SANDOR, *Veterinarian.*

Meteorological Observations *kept at Schellman Hills, Carroll Co., Md., Sykesville P. O.,* SEPTEMBER, 1860. (*Reported for the American Farmer.*)

DAY	THERMOMETER.				WIND.			RAIN	REMARKS.
	7 A. M.	2 P. M.	9 P. M.	D'y Mean.	7 A. M.	2 P. M.	9 P. M.	Inch's	
1	62	78	65	68½	W.	W.	N.W.	.....	Clear.
2	59	70	61	63½	N.	N.W.	N.E.	.....	Clear.
3	61	69	65	65	N.E.	E.	W.	.....	Cloudy.
4	72	72	68	70⅝	E.	S.E.	S.E.	.....	Clear—cloudy.
5	70	77	74	73⅝	S.	S.	S.E.	.....	Clear.
6	67	78	73	72⅝	S.E.	S.E.	N.E.	.....	Cloudy.
7	68	81	76	75	N.E.	S.	S.	.....	Clear—8 P. M. splendid meteor passed from S.W.
8	74	85	73	77½	W.	W.	W.	1	Clear. } 3 P. M. rain from S., lasted 15 minutes—
9	57	65	55	58½	N.W.	N.W.	N.W.	.....	Clear. } 4 P. M. gust, end 4.25—6.15 P. M. heavy
10	54	62	60	58⅝	W.	W.	W.	.....	Clear. } gust, ended 7 P. M.
11	60	70	57	62½	W.	W.	W.	.....	Clear.
12	54	58	48	50	W.	W.	W.	.....	Clear.
13	51	64	50	55	W.	W.	W.	.....	Clear.
14	49	67	55	57	W.	S.	S.	.....	Clear.
15	57	70	62	63	S.	S.	S.	.....	Clear.
16	57	76	65	72⅝	S.E.	S.E.	S.E.	.....	Clear.
17	67	68	65	66⅝	S.E.	W.	W.	.....	Clear—9 P. M. fog in valley.
18	63	70	65	66	W.	E.	E.	.....	Cloudy—began to rain 3 P. M.
19	68	71	68	69	S.E.	S.W.	S.E.	3¼	Rain—heavy rain in the night.
20	65	74	68	69	N.E.	S.	W.		Rain until 4 P. M.
21	58	60	50	56	W.	W.	N.W.	.....	Clear.
22	45	67	50	50⅝	W.	S.W.	S.E.	.....	Clear.
23	50	75	65	60⅞	W.	W.	S.W.	.....	Clear.
24	46	75	67	62⅝	S.	S.W.	S.	.....	Clear.
25	65	77	63	64⅛	S.W.	S.W.	W.	.....	Clear.
26	55	63	53	57	W.	W.	N.W.	.....	Clear. [M.—12 noon thunder.
27	50	51	49	51⅝	N.E.	N.E.	N.E.	¼	Cloudy—rain began 15′ of 8 A. M., ended 6 P.
28	53	54	49	52	W.	W.	W.	.....	Clear. } Corn 14 days later 1860 than 1859—
29	45	56	47	49½	N.W.	W.	N.W.	.....	Clear. } moist atmosphere prevents drying—
30	45	48	45	46	N.E.	E.	E.	.....	Cloudy. } will be late coming into market.

Monthly Mean, 62 4-30. 5 ¼ Inches Water fell.

HARRIET M. BAER.

The British Corn Trade.

The continuance of fine weather during the past week has enabled farmers in the southern and midland counties to secure a good portion of their crops. In the north, however, notwithstanding the fineness of the days, the night frosts have been against the ripening of the corn, especially in the cold clays. We are sorry to observe that the fear of damage by rain has led to too much haste in the gathering where the corn was cut. This year's crop of wheat will exhibit every variety of quality and condition, the lowest being amply fit for cattle feed, and the best only coming up to the average of former years. Barley, it appears, will show but few really fine malting staples. Peas have suffered much by shelling in the field, but oats and beans have passed through the rainy cold season with a very fair result. Three weeks' sunshine has also brought some compensation to hay farmers, by a moderate crop of grass; but potatoes are beyond remedy, and the growth of mangel wurzel has been greatly checked by the cold ungenial weather. The markets have hardly settled yet as to the prices of new wheat, though it has seriously declined from the starting price; still the rates of old have only receded 2s. to 3s. per quarter, and unless the new comes better to hand it seems likely we shall soon feel the smallness and insufficiency of the stocks of old for mixing, notwithstanding the late liberal supplies of foreign. It would appear, moreover, that much of the new crop gathered in Northern Europe is damp and inferior to ordinary years; so that a wide difference is likely to obtain between the values of new and old, both foreign and English, on this side Christmas. Should our own yield be short of an average amounting to 10 per cent., it is to be remembered that the lateness of the harvest by one month makes so much less to provide for, and the plenty and good condition reported in America and Southern Russia, seem likely to meet all necessities. Prices abroad have but little altered.

The sales throughout the country, noted last week, were 65,117 qrs. wheat, at 62s. 10d., against 92,821 qrs. in 1859. The London averages were 63s. 1d. on 570 qrs. The arrivals into the principal ports of Great Britain for the week ending 5th September, in wheat and flour, were equal to 130,706 qrs., including 12,406 qrs. colonial. The imports for August were 624,849 qrs. of wheat, and 565,837 cwt. of flour.—*Mark Lane Express, Sept.* 20.

[For the American Farmer.]

The Eggs of Insects.

Insects pass their winter in various stages of existence, the first being in the egg state. Do these eggs lay in torpidity? I think not. The term hybernation is scarcely admissible. The eggs are merely in a state of quiescence, as those of a fowl before the vital principle is excited by warmth into activity. They develop in due season under the influence of heat, light and air. The number of insects which in this primary egg state pass through the ordeal of winter, is very considerable. Several insects bury their winter-induring eggs in the earth at a considerable depth by means of a long ovipositor, such as Grasshoppers.

The *Grain Weevils* lay their eggs in stored grain; the females go from one grain to another and drop a single egg in each grain until all her eggs are laid; she then dies.

The Burying Beetle.—This curious insect derives its name from its habit of burying any small dead animal left on the surface of the ground. With such rapidity does it work, that two beetles have been known to cover up a sparrow within a few hours. The object of this remarkable instinct, so beneficial in its effects, is to furnish food for the young, who are hatched from the eggs laid in the body of the animal during its burial.

The Ichneumons.—They bore holes in other insects while in the larva state, and leave the eggs to hatch in their living receptacle. They are most useful to mankind, as one will destroy more caterpillars than a man.

The *Aphides*—of which we have so many species—the pests of the gardens, deposit their eggs innumerable on every kind of plant, and sustain without injury the severest cold of winter.

The Cicades.—They prepare a nest for the reception of their eggs in the branches of a moderate sized tree. After the hole is bored to the soft part of the wood, the female lays from fifteen to twenty eggs. She accomplishes her work in about an hour, and dies.

The *Plum Weevil*, a little rough, dark brown beetle. In stinging the fruit, (says Harris,) before laying its eggs, it uses its short curved snout, which is armed at the tip with a pair of very small nippers; and by means of this weapon it makes a crescent-shaped incision, and in the wound lays only a single egg, and dies.

On the apple and other fruit trees I have noticed round the limbs and twigs, a ring closely fitting, composed of hundreds of hardish shelled eggs of the *Tussic Moth*, regularly disposed in circular rows, and glued together in compact order, so as to be protected from being broken or destroyed by their enemies.

How surprising the instinct by which these creatures are taught uniformly to deposit their eggs on such animal or vegetable substances, as to furnish a proper and plentiful supply of food for the worms or caterpillars, as soon as they are hatched. It is so with every thing in this world of ours On every side we are reminded of a Superior, and an all-wise Creator. We have been tracing nothing but evidence of his wisdom and power in the simple yet beautiful laws which regulate the being and growth of all living things. To study such laws, then, is a noble as well as attractive pursuit, whose existence and whose periodical changes they regulate.

J. JACOB BOWER.

SOIL FOR POTTING.—Do not neglect to get enough of this together before frost comes, to last all winter. The complicated compost heaps some writers are fond of expatiating on, are all a myth and worse, for many of the *heaps* would not grow a weed hardly. If you can get good maiden loam from an old pasture, cut two or three inches deep only, laid together long enough to rot the sod, and a quantity of the soil from the woods—that which has quite a sandy nature, gray rather than black is best—you have then the main ingredients for all ordinary plant growing. A few might require the loam to be nearer approaching to clay than others; otherwise it is the best base for a compost heap that can be obtained. Decayed leaves from the garden can be substituted for the soil from the woods, if the latter cannot be obtained, but the former is the *healthier* of the two.—*Edgar Sanders.*

A FARMER'S STORY.—At the Woodbury ploughing match a few days ago, Mr. John Daw told the following anecdote: Having drained a field where nothing had ever grown before, I was standing near looking at a crop I had there, when a neighboring farmer came up. We had one or two loose farmers in our neighborhood; one of them in fact came from Woodbury; (laughter;) but that is not the man I am speaking of. He came up and said to me—"That is a bootiful crop! How did ee get it, sir?" I replied, "Brains." (Laughter.) "What! manure the field with brains?" (More laughter.) The fact was, I had drained the field; so I said, "Yes." (Renewed laughter.) He replied, "Goodness, yer honor, where did ye get um?" (Roars of laughter.)—*Sherborne (Eng.) Journal.*

Inspection of Fertilizers.

At a meeting of the Philadelphia Society for the Promotion of Agriculture—a report of which we find in the *Germantown Telegraph*—a conversation took place with reference to fertilizers, from which we take this extract:

"Mr. Sidney G. Fisher thought that the chemist of the Society, Prof. Booth, should analyze specimens to be procured by a committee of the Society, who should visit the factories of the manufacturers at unexpected periods. In this way it might be ascertained which manufacturers conformed to their samples, and those who do not.

Prof. Booth said such analisations would be very expensive, costing in each case from $15 to $25. Without intending to express an opinion upon the merits of any manure now offered for sale, he said that, after all, he considered that stable manure was the most *stable* article of the kind a farmer should use, and it should be his main dependence.

Dr. Charles King was of opinion that there should be an inspector of concentrated manures appointed by law, whose duty it should be to inspect all manures offered for sale, in the same manner that flour and other articles are inspected before being offered for sale, to prevent imposition.

Mr. Fisher took the same view, and mentioned a case in point."

Here are several points presented worthy of consideration. As to the *stable* manure, suggested by Professor Booth, that is unquestionably all right as to the idea, but in practice we find almost of necessity a woful deficiency in amount. Where shall we get stable manure enough?—Much may be done, we know, that has not yet been done, in increasing the quantity of well fed stock to the utmost point at which it can be made to pay. The prices of meat for some years past show plainly enough that we are as yet far short of that point.

But after all we are by no means likely to do without concentrated fertilizers. They have become a necessity, and the question as to the proper protection of the agricultural community, is one which demands attention. Our friends in Philadelphia find it so; it is so here. We want better tests to determine between the good and the bad than have yet been applied. The suggestion of Professor Booth of the cost of analysis shows how entirely it is out of the power of the farmer to protect himself.

Our existing Inspection Law is entirely inadequate to the demands of the case. Its operation does not reach at all the various manipulated guanoes and superphosphates, &c. Now it is here especially that protection is required. These are the articles most diligently pressed upon the community; in which there is most temptation to fraud, and in which of course knavery is most likely to flourish. The men who deal honestly in them should be made to stand out before the community in their true character and reap their due reward, and those who do not should be hunted out and exposed. An upright, fearless and diligent State's officer, with a proper law under which to act, may accomplish much, and we trust that before the meeting of another legislature a thoroughly effective law may be devised. In the meantime, let the intelligent farmers of the State bring their minds to bear upon the subject and give it the consideration its importance demands.

Rearing and Fattening of Swine.

Gluttons and dyspeptics have always been instructed by intelligent physicians to eat slowly, and masticate the food well, and thoroughly incorporate the same with the saliva, to secure good digestion and a uniform appetite.

The rule holds good with hogs and should be early taught and enforced, both for the advantage of the pig, and his owner. Everybody knows that a pig cloyed in early youth with strong food, greedily eaten, becomes a dyspeptic, and never does well after. Now, say to your pig, "learn to eat slow, and all other graces will follow in their proper places." Perhaps many good farmers may say "it can't be done." Nothing easier. Give the weaned pig at 6 or 8 weeks old, in a clean trough, half a teacup of dry shorts or bran, and after his dry food is all eaten, give his drink, and increase the dry shorts according to the age and appetite till 3 months old, then add one-half Indian meal for two months, and then dry Indian meal till fattened sufficiently. I have followed this plan for five years past with success. I have two pigs now 5 months old that are fed one quart Indian meal each, three times a day, which takes half an hour to moisten and swallow, and this quantity, with the slops and dish-water, (all of which they take after their meal,) will carry them to 200, dressed, at 6½ months old. At one year old the same breed weigh 400. One at 9 months weighed 375. I have a sow that has brought me 126 pigs, and will have another litter in September.—*New England Farmer.*

The place of greatest safety is the place where duty calls.

Wine Farming and Making.

Wine farming will, in a few years, become simplified, and almost as easily understood as corn planting. There is no mystery in it. Experience alone must teach the proper position and soil; the right distances apart for the vines; the most judicious methods of spring and summer pruning; and as for cultivation, keep the ground clean with the plough or cultivator, like corn. Certain rules are given in books, for vineyard culture, as pursued in the Ohio Valley. These are the European systems, adapted to our own country. It will be safe to follow these rules, until, by experimenting, we can find better.—There is more room for progress in this branch of agriculture, than in almost any other.

Making the wine is as simple as making cider. The great bunches are cut from the vines, and all unsound or unripe berries picked off the bunch and thrown into a bucket, to make—with the addition of sugar—vinegar, or an inferior wine. The perfect grapes of each day's cutting, are taken to the wine house, and in the evening, after being mashed in a barrel with a beetle—stem and berries—or passed through wooden rollers in a small mill, are put on the press, and the juice extracted. About one-third runs off without any pressure. The outer edges of the pomace are cut off for eight or ten inches, after the first pressing, separated with the hands, and thrown on top, when the power of the screw is applied, and another pressing made. This is repeated two or three times. The juice from the last pressing, being very dark, and astringent, is put with the inferior wine. The other is put in large casks, filled about five-sixths full, to ferment and made the good wine. No sugar or brandy should be added to the best Catawba juice—or must—as it makes a better wine without, and is strong enough to keep well. One end of a syphon is placed in the bung hole of the cask—the other being crooked over, rests in a bucket of water.

The fermentation commences in a day or two, and the carbonic acid escapes through the water. In ten to fourteen days, the syphon may be removed, the casks filled up, and the bung driven in lightly—in a month, tightly. In mid-winter the wine is drawn off into another cask, and the lees of the wine, with the pomace of the grapes, is used to make brandy.

The wine will be clear and pleasant to drink in a month or two after the first fermentation ceases. The second fermentation occurs in the spring—about the time of the blossoming of the grapes—this is but slight, and it will be merely necessary to loosen the bungs; when it is over, the wine will be clear in two or three months, and safe to bottle, but that operation had better be deferred until November. And *this* is the whole process of making still wine—the wine for general use; and, being a *natural* product of the pure juice of the grape, it is more wholesome than any mixed or *artificial* wine, however showy and high-priced it may be.

Let the grapes be well ripened; the press, casks, and all vessels perfectly clean, and then keep the air from the new wine, by having the casks constantly *bung full*, and there is no danger of its spoiling. This is the whole secret.

It is presumed that no one will go into wine-farming largely at first, but take the precaution to test, by the cultivation of a few acres, the capabilities of his soil, position and climate, and the kind of grape best suited to it.—R. BUCHANAN, *in Ohio Valley Farmer.*

A NEW TEA.—"Dr. Hassall in his evidence before the committee described a kind of spurious tea called 'Lie Tea'—a very fit name for it, though it was given by the Chinese—used to adulterate other qualities; and it was found that much of what was sold to the poor as tea contained no tea whatever. One specimen was brought before the committee, by which, though it excited a smile, they were much disgusted. Large quantities of tea were mixed with silkworms' dung; it was called and sold as 'gunpowder tea.' Of course the committee did not venture to taste it, but they were assured its flavor was very peculiar; yet it found a large market in the poor parts of the metropolis, as the silkworms' dung gave it the appearance of great strength."—*Med. Times and Gazette.*

HOW CARROTS AFFECT HORSES.—The carrot is the most esteemed of all roots for its feeding qualities. When analyzed, it gives but little more solid matter than any other root, eighty-five per cent. being water; but its influence in the stomach upon the other articles of food is most favorable, conducing to the most perfect digestion and assimilation. The result, long known to practical men, is explained by chemists as resulting from the presence of a substance called *pectine*, which operates to coagulate or gelatinize vegetable solutions, and this favors digestion in all cattle. Horses are especially benefited by the use of carrots. They should be fed to them frequently with their other food.—*American Stock Journal.*

SUNDAY READING.

He hath a Devil. Never can you entirely repair the mischief which you have inflicted by calumny on your neighbour's character. Never can you perfectly restore to him his former good name! You cannot say here, as you may in regard to a pecuniary damage: "If I have done wrong to any man, I restore four fold." When Moses was desirous of proving His divine mission to Pharoah, he cast his rod before him, and it became a serpent; afterwards the rod returned to its former shape. The magicians of Pharoah, trying to be even with Moses, cast down their rods, which indeed became serpents, yet never returned to their former shape, but remained serpents still. Now listen to the acute observation of Origen upon this incident: Satanic power was quite unable to make that good again, which from being before good it had once made bad. It could turn the rod into a serpent, but could by no means extract the rod out of the serpent again. Now the same thing will happen to calumniators. You may, with a mere trifle, make a worthy man look, in the eyes of the world, like a monster; but how will you manage afterwards wholly to reinvest him with his former good name?

The means which God vouchsafes to employ for the perfect overthrow of the devil's kingdom, are not such as He might be expected to put in use if His omnipotence alone were regarded; but they are such as are consistent with the free agency of man, such as are adapted to the nature of man, as a rational and moral agent, and adapted to the justice and wisdom and mercy of God in His dealings with such a creature.

In Christ's true members, Faith sees her Lord, and Love ministers to His necessities. If there be any universal virtue, which fills, as it were, all the rest with goodness, and gives them their value and importance, that certainly is Charity, the true love of God and of our neighbour; from which whatever arises will at last be grateful and pleasing to God, although it should seem otherwise of little value.

Cold prayers bespeak a denial, but fervent supplications offer a sacred violence to the kingdom of heaven. Lazy prayers never procure noble answers. Lazy beggars may starve for all their begging.

Some *confess*, but believe not, as hypocrites; others believe, but confess not, as timorous and Peter-like professors in the days of persecution; others do neither confess nor believe in Christ, as atheists; others both confess and believe, and they are true Christians.

Objections against *Christianity* as contradistinguished from objections against its *evidences* are frivolous.

Christ's special regard to the destitution of poverty, and to the helplessness of childhood, shews His mission to have been divine, not heeding the support of the rich and mighty, and noble of this world, whose special favors doubtless an imposter would have courted. The conversion, too, of any one single soul, is a proof of the divine power; this as a moral evidence, possesses more weight than the attestation borne by external miracles.

If the religion of Jesus Christ is to be corrected and softened down, 'till it becomes agreeable to the natural thoughts and imaginations of the human heart, then in vain was it said, "Blessed is he, whosoever shall not be offended in Me."

There is a kind of unreasonableness of desire, and unsatiableness in infidelity. It never knows when it has evidence enough. It ever loves to be its own carver.

Do by thy slander as Hezekiah did by the railing lines of Rabshakeh; spread them before the Lord, and leave thy quarrel in the just hands of that great Arbiter of heaven and earth, who will be sure in His good time to revenge thy wrong, and to clear thy innocence, and will requite the good for their causeless curses.

'Tis not a man's skill in State affairs that makes him an ambassador, nor ability in the law that makes him a magistrate; but their call to their places: neither do gifts make a man a minister, but his *mission*.

The counsels of heaven are not known to the wicked, because they are not sought after; and they are not sought after, because of a diabolical self-sufficiency, which, having taken possession of the heart, displays itself in the countenance and reigns throughout the man. He wants no prophet to teach him; he needs neither a Christ to redeem him, nor a spirit to sanctify him; he believes no Providence, adores no Creator, and fears no Judge.

Sheep are of a very harmless and inoffensive nature. "What the dove is among birds, the same is the sheep among cattle." And such must Christians be, indued with dove-like simplicity, with lamb-like innocency.

To combine the simplicity of children with the wisdom of age is a rare and precious gift.

Wholesale Produce Market.

Prepared for the American Farmer by ELLICOTT & HEWES, *Produce and Commission Merchants, 59 Exchange Place.*

BALTIMORE, October 22, 1860.

BUTTER.—Ohio, in brls. and kegs, 11 to 12½; Virginia and Pennsylvania, in kegs, 11 to 12½; Glades, 14 to 20; Roll, 14 to 18.

BEESWAX—37 cts.

CHEESE.—Eastern 11½, Western 11.

DRIED FRUIT.—Apples $1.40.

EGGS—In barrels, 17 cents per dozen.

FEATHERS—47 to 48 cents for good Southern.

LARD.—Brls. 13½, kegs 14, jars and other country packages, 13½ to 14.

TALLOW—10½ cents.

WOOL.—Unwashed 25, tub washed 35, pulled 29, fleece 40 cents.

Baltimore Markets, Oct. 22.

COTTON.—There is a fair demand from our own manufacturers and some sales are making for neighboring markets, at the following prices, viz:

Grades.	*Upland.*	*Memphis and Gulf.*
Ordinary	8 a 9	8 a 9
Good do	9 a10	9 a10
Low Middling	11 a11½	11½a11½
Middling	11¾a12	12 a12¼
Strict do	12 a12¼	12¼a12½
Good do	12¼a12½	12½a12¾
Middling Fair	12¾a13	13 a13¾

FISH—We quote prices as follows: Mackerel, $7 for medium No. 3; $9.25 to $9.50 for large No. 3. Alewives, $4. Eastern Herrings, $2.75. Labrador, $4.50 per barrel.

FLOUR.—We quote Howard street Super, $5.75; Extra, $6.25. City Mills Super, $5.50; Extra, $6.25. Family Flour, $6.50 to $7.00 for the different brands; very choice brands, $8 to $9.

Rye Flour and Corn Meal.—We quote Rye Flour at $4.50. Corn Meal at $3.62½ per bbl.

Buckwheat Flour.—Common, $2.25 to $2.50; premium, $3.25 per 100 lbs.

GRAIN.—The receipts continue heavy. Red Wheat, $1.20 to $1.30 for ordinary, and $1.35 to $1.42 for good to prime. White Wheat, $1.25 to $1.30 for common; $1.37 to $1.45 for medium; $1.50 to $1.60 for fair to good, and $1.65 to $1.70 for prime and choice lots.

Corn.—We quote white and yellow 70 cents.

Oats.—32 to 36 cents.

Rye.—Maryland and Virginia, 75; Pennsylvania, 82 cents.

Mill Feed.—Brown stuff, 16; middlings, 30 cents per bushel.

PROVISIONS—*Bacon.*—Shoulders, at 9¾, and Sides at 11¼ cents per lb.

Bulk Meat.—Shoulders 8¼; Sides 10¼ cents per lb.

Pork.—Mess, $19.25; Prime, $14.50. Rump, $14.

SEEDS.—Clover seed, $6.50. Timothy, $3.50. Flaxseed, $1.40 to $1.50 per bus.

POTATOES.—65 to 70 cents per bushel.

ONIONS.—$1.75 per bbl.

SALT.—Turks Island, (except in cargo lots,) 25 cents per bushel.

ASHES.—Pot, $5.25; Pearl, $5.56¼ per 100 lbs.

TOBACCO.—All good qualities of Maryland sell readily at full prices, but the bulk of receipts are of common descriptions. We continue to quote frosted Maryland at $2; ground leaf at $3 to $7; common at $2.50 to $3.50; middling, $4 to $4.50; good middling, $5 to $5.50; good leaf, $6 to $6.50; and fine at $7 to $12. Ohio Tobacco—inferior to good common at $3 to $4; red and spangled at $5 to $6.50; good and fine red spangled at $7 to $8, and good and fine yellow at $9 to $12. Kentucky Tobacco. We continue quotations, viz: common lugs at $4.25 to $4.75; good do. at $5.25 to $5.50; inferior leaf at $5.75 to $6.25; good do. at $6.50 to $7.50; fine at $7.50 to $9; choice at $10 to $12; and rich heavy Kentucky at $7 to $12.50.

GUANO AND OTHER FERTILIZERS.—Prices continue without change. We quote Peruvian at $61 to $62 per long ton, according to quantity—the latter being for a single ton and upwards. For less than a ton, at the rate of $56 per ton of 2000 lbs.; California or Elide Guano, $40 per long ton; Manipulated, $47; Super-Phosphate, $45; Mexican, AA, $20 to $22; American Guano $40 per ton of 2240 lbs.; Sombrero, $30 per long ton; Ichaboe Guano, $52. Navasa Guano, $25 per ton. Ground Bones, $27 per 2000 lbs. (packages extra.) Poudrette $10 per ton in bulk. Plaister, $1.25 per brl.

HIDES—Country slaughtered, 9 to 9¾; dry do. 14 to 16 cents.

HOPS—30 to 32 cents per lb. for new crop.

HAY AND STRAW.—Hay, $16 to $17 per ton. Straw, $15 for rye, $9 for wheat, $10 per ton for oat.

CATTLE MARKET, Oct. 16.—Beef Cattle were in fair supply to-day, but the receipts were considerably smaller than on last market day, the offerings amounting to 1,250 head, against 1,900 head on last Thursday. The market for them was tolerably active, and the sales show an improvement in prices since last week of ½ to ¾. Of the Cattle offered 200 were driven to Philadelphia, 100 were left over unsold, and the remaining 950 were taken by Baltimore butchers at prices ranging from $2.50 to $4, averaging $3.37½ per 100 lbs. gross.

HOGS.—Hogs continue in good demand, but we have no change to note in the rates, and we still quote them at $8 to $8.50 per 100 lbs. net, for good to prime lots.

SHEEP.—Sheep are still selling at $3 to $4 per head.

NEW ADVERTISEMENTS.

Bennett & Co., F. W.—Fruit Trees at Auction.
Bowen & Mercer.—Metallic Paint.
Butcher, Alex.—Confectionery and Dining Saloon.
Daniels, Howard.—Landscape Gardener and Architect.
Dunnington, W. A.—Ground Plaister.
Elliott, A. C.—Sombrero Guano.
Gross, J. I.—Land.
Grover & Baker.—Sewing Machine.
Satterthwaite, J. H.—Small Fruits.
Stran & Co., Wm. H.—Stove House.
Weatherby & Co., J.—Stoves, &c.
Dickinson, Geo. C.—Farm for Sale.

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Sombrero Guano.

The public are informed that a copy of this communication was sent also to the "Rural Register," of this city, in which journal most of the attacks upon the Sombrero Guano originally appeared; but the editor, without assigning any satisfactory reasons, refused to publish it:

SOMBRERO GUANO AGENCY,
73 *Smith's wharf, Baltimore, Md.*,
October 8th, 1860.

To the Editors of the American Farmer:

I have just returned from Sombrero Island, and beg leave to say a few words in reference to the strictures upon Sombrero Guano, which have been published in the "Farmer" during my five months' absence. So long as honorable means are used to promote any opposing enterprise, I have not a word of complaint to utter; but when the proprietor of Navasa, or other Guano, puts himself in opposition to our business upon premises which he has invented, and well knows to be utterly groundless, it becomes me to speak out and expose the fraud which is thus designed upon me and the public.

Sombrero Guano is not known for the first time to-day; for it was inaugurated in 1856 as an institution upon a solid basis. Then it was analyzed, and repeatedly since it has been analyzed, by all the competent chemists in the United States, and by many abroad. In each instance the result attested its pre-eminent richness in available phosphate. Years of practical experience in its use by planters have further strengthened and established its claims to be "the" standard bone phosphate; and now, at this day, it is well known that those soluble or manipulated fertilizers, such as made by Fowle, Reese, and the Petersburg Company, into which it enters as material, enjoy a reputation and exert an efficiency which no competing compound has been able to accomplish without it. Thus it is that the real excellence and high repute of our Guano have provoked the jealousy of the proprietor of the Navasa, who seeks to divert attention from the intrinsic worthlessness of his own article, by decrying the Sombrero, with the hope of making a ruin of us upon which to build a success for himself. Thus it is, too, that he has deemed it necessary to get the assistance of a collegiate chair to plead for Navasa, and against Sombrero Guano, so that by the prestige of such accidental position, the word of the "*Professor*" may strike the unthinking and unsuspecting with a force of authority which is not justified by either their substance or their truth.

Now, with a profound reverence for Science and its true followers, but contemptuous in my regard of those unscrupulous ones, who affect its accomplishments when they are ignorant of even its simplest rudiments, I protest, indignantly, against the unfairness of the publications in point. But that the author may have the opportunity of vindicating himself before his profession and the public, if he can do so, I propose that his statements shall be submitted to a scientific tribunal of three persons—two of whom may be chosen by Mr. Cooper, the proprietor of the Navasa, leaving only one of the chemists to be selected by our house. Premising that the whole expense of this commission shall be jointly incurred by Mr. Cooper and ourselves, I propose to prove before it in the most unqualified manner, upon a penalty of two hundred dollars, payable on default to the Orphan Asylum of this city—

AS TO THE NAVASA GUANO:

1st. *That Navasa Guano is nearly "dirt poor" as a fertilizer.*

2d. *That apart from its poverty in bone phosphate, it is inferior in other respects.*

3d. *That Navasa Guano is inferior to* COPROLITES *for any and all of the purposes of a phosphatic material.*

4th. *That the solubility of Navasa Guano under atmospheric influences is barely appreciable compared with that of Sombrero Guano.*

5th. *That Navasa Guano will not make either a commercial or agricultural superphosphate of lime.*

6th. *That on account of the large proportion of iron and alumina which it contains, the Navasa might almost be considered a raw material for the manufacture of copperas and alum, than a true Guano.*

AS TO SOMBRERO GUANO:

1st. That Sombrero Guano is the most efficient and economical of the Phosphatic Guanos.

2d. That it contains nearly twice the amount of actual bone phosphate that Navasa Guano does.

3d. That Sombrero Guano is not "*Coprolite;*" nor of that species.

4th. That Sombrero Guano is a most serviceable material for superphosphate and manipulating purposes.

5th. That Dr. Stewart's published statements in depreciation of Sombrero, compared with Navasa Guano, are incorrect in nearly every particular.

Believing that this is the fairest method of coming to the right of the contest imposed upon us, and in the hope that Mr. Cooper may respond manfully to this call, I ask that you will insert this paper as a communication, and oblige

Your obed't serv't,

nov. ANDREW C. ELLIOTT.

Farm For Sale,

IN THE COUNTY OF ALBEMARLE, VA.

I offer for sale the FARM on which I now reside, in the above named county. The Farm contains

450 Acres,

150 of which are heavily timbered. It lies upon the eastern slope of the Southwest Mountains, within fourteen miles of Charlottesville, ten miles of Gordonsville, three miles of Cobham Depot on the Virginia Central Railroad, and adjoining the lands of the Hon. Wm. C. Rives, Rev. E. Boyden, Dr. T. W. Meriwether, and others.

The improvements consist of a good DWELLING, Carriage House, Stable, Tobacco Barn, &c.

For society and healthfulness of situation it is unsurpassed.

STOCK AND IMPLEMENTS will be sold at the same time. Terms liberal.

Persons desirous of looking at the Farm are requested to call and do so. Address GEO. C. DICKINSON,

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